A Manual of the Ornithology
of the
United States and Canada

By

Thomas Nuttall

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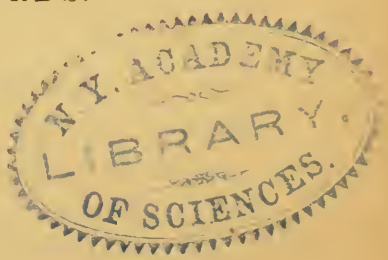
BY

THOMAS NUTTALL, A. M., F. L. S.

THE WATER BIRDS.



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PREFACE.

In the History of the Aquatic Birds of Canada and the United States, I have made use of the same authorities quoted in the preceding volume of the Land Birds, with such additions as have been more recently published; and, amongst these, I may mention, as preeminently useful, the great work of Doctor Richardson and Swainson, on the Zoology of the Northern and Arctic regions of the American continent; in the second volume of which is contained an ample history of all the birds of those countries, and more particularly such as were discovered in the remote hyperboreal tracts examined and explored by the enterprising and scientific individuals, attached to the several public parties sent out for the purpose, by the enlightened liberality of the British Government. From this work, so important in the history of the present tribes, I have derived much important information on which I could well rely, from the acknowledged skill and accuracy of their respective authors. At an advanced period of the publication, I also received much interesting information from my eminent friend Mr. Audubon, and I have only to regret that the whole manuscript had not been placed under his revision. The Synopsis of C. Bonaparte, the Prince of Musignano, has

again also been the principal groundwork of the arrangement and diagnostic distinctions of the species.

A more natural disposition of the subject, than the classification I have now adopted, would have been perhaps more gratifying to the learned, but less useful in practice, and more perplexing to the general reader. A numerical system, (binary, quinary, &c.) however curious and philosophical, yet intricate in its ultimate relations, has the inconvenience at the outset of debarring the majority of students from the attempt to comprehend a subject so complicated and ambiguous; and which at the best is but a bewildering and fanciful theory. A strict disposition into natural groups, would have been indispensable in a purely scientific treatise on Birds; but in a work of this nature, intended for the general Reader, we have given the preference to the more simple arrangement of Temminck, which indeed differs little from the artificial classification of Linnæus and Latham. The difficulty of recollecting, on all occasions, an intricate mass of real and fanciful affinities, renders such methods of distribution entirely nugatory in point of convenience.

To complete the Catalogue of our birds and those of the contiguous and vast possessions of Great Britain, I have added an Appendix, drawn chiefly from the discoveries recorded by Richardson and Swainson in the second volume of their Northern Zoology; and to which is also added some information and additions from other sources, as well as the remedy of some inadvertent omissions.

In now retiring from the public as an Ornithologist, I take this opportunity of again tendering my thanks to the various friends and acquaintances who have at differ-

ent times afforded me any assistance in the completion of my imperfect labors.

The graphic illustrations, more uniform and correct than those of the preceding volume, have all been executed by Messrs. Andrews & Co. of Boston, and though much fewer than could be desired for a complete knowledge of the North American birds, serve in their way as some assistance to the general character of our feathered tribes.

WADING BIRDS.

(GRALLATORES. *Temminck.*)

IN this tribe the BILL varies in its form, but is mostly straight, and carried out into a lengthened and compressed cone, though rarely it is depressed or flat. Legs and feet long and slender, the former more or less naked above the knees: the toes mostly three before and one behind, the hinder one on a level with, or more elevated than the rest.

The Wading Birds are nearly all more or less nocturnal in their habits; they course along the borders of seas, lakes, and rivers, and feed, often indifferently, on fish, fry, reptiles, and on land and aquatic insects; those provided with a strong and hard bill, give a preference to fish and reptiles, while those with flexible mandibles, feed on worms and insects. They are all provided with long wings, so necessary to sustain them in the distant journeys which they periodically undertake, and for which they assemble themselves into flocks, the young and the old proceeding in separate companies. In the autumn, unable to procure sustenance, by reason of the frost, they migrate to mild climates. While sustained in the air, their feet are usually seen stretched out behind them; their gait is slow, with measured steps; though at the same time, some of the birds included in this general order run with great celerity, as might be expected from the concurrent formation of their legs and feet. Most of these birds enter the water, without attempting to swim; some

traverse muddy and oozy marshes; while others, with slender legs, and with the toes very long, and entirely divided,* swim and dive with the greatest facility. A few of the GRALLÆ with the feet wholly or partly palmated, still do not habitually swim, but seeking their nourishment over vast marshy plains, washed by the sea or by rivers, they are provided with long legs, and their wholly, or partially webbed feet serve merely to sustain them from sinking into the soft and muddy soil. Other species, though they do not habitually swim, are nevertheless endowed with the ability, which they seldom exercise, but when driven to extremities by their enemies.† The voice of the whole order, of these melancholy, quailing, and shy birds, is generally harsh, loud, and unmusical; but though divested of sympathetic attraction to man, they yet afford a vast supply of choice and delicate food, many of them being ranked amongst the most valuable game. They breed usually but once in the year. In some genera, and often only in a few species, the moult is double, and attended with a periodical change in the colors of the plumage: in others the moult is annual, and then, the young are several seasons in acquiring the dress of the adult; but in all there is but little external sexual difference.

§ I. *Waders with three toes.*

SANDERLINGS. (CALIDRIS, *Illiger, Temminck.*)

IN these birds the BILL is of moderate size, slender, straight, rather soft, flexible in every part, compressed from its base, with the point depressed, and so much flattened, as to be wider than the middle. *Nasal* groove elongated nearly to the point of the bill. NOSTRILS lateral, placed in a longitudinal cleft. FEET slender, the 3 toes

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* The Rail, Gallinule and Parra.

† Such as some species of the genera *Tringa*, *Totanus*, *Limosa*, *Charadrius*, and particularly *Hæmatopus*.

all directed forward, and almost entirely divided to their base. *Wings* moderate in size, the first quill the longest.

The genus of the *Sanderling* contains but a single species, ordinarily confounded with the Sandpipers, to which they are indeed closely related. These birds are spread nearly throughout the whole globe, over which they travel in the course of their periodical migrations. They retire into the colder regions to breed, emigrating usually in small companies, along the borders of the sea, and they often cover the shores with their numerous flocks. They live upon the smallest marine insects, crustacea, minute shell-fish, and the diminutive coleopterous insects of the shore. As they are only seen accidentally along the borders of rivers, it is to be presumed that their principal food is maritime. They experience a double moult, and the color of their plumage greatly differs in the two seasons; the sexes, however, are scarcely distinguishable from each other by any external marks, but the young of the year have a livery which differs from that of the adult at any season.

SANDERLING PLOVER.

(*Calidris arenaria*, Illiger. *Tringa arenaria*, Lin. *Charadrius calidris*, Wilson, vii. pl. 59. fig. 4. [adult in winter dress.] Phil. Museum, No. 6204, and Ruddy Plover, *C. rubidus*, Wilson, vii. pl. 63. fig. 3. [summer dress.])

Specific Character. — The Bill straight and shorter than the head; the rump ash colored, and with the middle tail feathers the longest. — *Summer* plumage, varied with blackish, white, and rufous, beneath white. — *Winter* livery, pale ash color, and with the sides of the head, and all beneath, white.

The Sanderlings, in accumulating flocks, arrive on the shores of Massachusetts from their remote northern breeding places towards the close of August. They are seen also about the same time on the coast of New Jersey, and still farther to the south, where they remain throughout the greater part of the winter, gleaning their subsistence exclusively along the immediate borders of the ocean, and are

particularly attached to sandy flats, and low, sterile, solitary coasts, divested of vegetation, and perpetually bleached by the access of tides and storms; in such situations they are often seen in numerous flocks, running along the strand, busily employed in front of the moving waves, gleaning with agility, the shrimps, minute shell-fish, marine insects, and small moluscous animals, which ever recurring accident throws in their way. The numerous flocks, keep a low circling course along the strand, at times, uttering a slender and rather plaintive whistle, nearly like that of the smaller sandpipers. On alighting, the little active troop, waiting the opportunity, scatter themselves about in the rear of the retiring surge, the succeeding wave then again urges the busy gleaners before it, when they appear like a little pigmy army passing through their military evolutions; and at this time the wily sportsman, seizing his opportunity, spreads destruction among their timid ranks: and so little are they aware of the nature of the attack, that, after making a few aerial meanders, the survivers pursue their busy avocations with as little apparent concern as at the first. The breeding place of the Sanderling, in common with many other wading, and aquatic birds, is in the remote and desolate regions of the north, since they appear to be obliged to quit those countries in America a little after the middle of August. According to Mr. Hutchins, they breed on the coast of Hudson's Bay, as low as the 55th parallel: and he remarks that they construct, in the marshes, a rude nest of grass, laying 4 dusky eggs, spotted with black, on which they begin to sit about the middle of June.

Flemming supposes that those seen in Great Britain breed no farther off than in the bleak Highlands of Scotland, and Mr. Simmonds observed them at the Mull of Cantyre as late as the 2d of June. They are found in the course of the season throughout the whole arctic circle, extending their

migrations also into moderate climates in the winter. They do not, however, in Europe, proceed as far south as the capital of Italy, as we learn from the careful and assiduous observations of the Prince of Musignano. According to Latham, the Sanderling is known to be an inhabitant even of the remote coast of Australia, and is found on the shores of Lake Baikal in Siberia. In the month of May, or as soon as they have recovered from the moult of spring, they leave us for the north, but are seldom in good order for the table until autumn, when, with their broods, they arrive remarkably plump and fat, and are then justly esteemed as a delicacy by the epicure. Besides the various kinds of insect food, already mentioned, on which they live, they likewise swallow considerable portions of sand, in order, apparently, to assist the process of digestion.

The Sanderling is about 8 inches in length; the alar extent or stretch of the wings being 14 inches. The bill and legs black, the former about $1\frac{1}{4}$ inches long. *Summer plumage*, the feathers black in the centres, bordered with ferruginous, and fringed with white, the black spots only larger, and the rufous borders deeper, on the scapulars. Four first primaries brown externally and on the tips; their inner webs, and the bases of the other quills, with the whole *under* plumage white. Rump gray. The 2 central tail feathers blackish-brown, slightly edged with ferruginous; the others of a soiled white. *Wings* equal with the tail. — After the moult in *autumn* and in *winter*, all the upper parts, and the sides of the neck, are of a whitish gray, but with a small trait of a deeper color in the centre of each feather. In the *young* bird before moulting, the dark upper plumage is bordered by yellowish, and varied with small spots of the same color.

LONG-LEGGED PLOVERS, OR STILTS.

(HIMANTOPUS, *Brisson, Tem.*)

IN the birds of this singular genus, formerly included among the Plovers, the BILL is long, slender, cylindric, attenuated, flattened at

its base, and compressed at the point; the mandibles are also channelled laterally for about half their length. The NOSTRILS lateral, linear, and long. FEET very long and slender; the 3 toes directed forward; the middle toe united to the outer one by a wide membrane, and to the interior toe by a minute rudiment only; the *claws* very small, and flat. *Wings* very long, the 1st quill extending far beyond the rest.

The *Stilts* have a greater predilection for the borders of the sea and saline lakes, than for the banks of rivers and fresh waters. They fly with great rapidity, but when running appear to stagger in balancing their long legs. Their food consists of small worms, flies, minute shell-fish, and marine insects. The species are very few, and spread over Europe, Asia, and America, but they are no where numerous. They associate and breed in small flocks, and from the unusual length of their legs, are, like the Flamingo, obliged apparently to hatch their eggs in a standing or equitant posture. The moult is believed to be double.

BLACK-NECKED STILT.

(*Himantopus nigricollis*, Vieillot. *Recurvirostra himantopus*, Wilson, vii. pl. 58. fig. 2. Phil. Museum, No. 4210.)

Sp. Charact. — White; neck above, scapulars and wings, black. — *Female* (or young?) with the back, scapulars, and tertials dark brown.

The Black-necked Stilt is common to many parts of South as well as North America; it is known at any rate to inhabit the coast of Cayenne, Jamaica, and Mexico. In the United States, it is seldom seen but as a straggler as far to the north as the latitude of 41°. About the 25th of April, according to Wilson, they arrive on the coast of New Jersey in small flocks of 20 or 30 together. These again subdivide into

smaller parties, but they still remain gregarious through the breeding season. Their favorite residence is in the higher and more inland parts of the greater salt marshes, which are interspersed and broken up with shallow pools, not usually overflowed by the tides during summer. In these places they are often seen wading up to the breast in water, in quest of the larvæ, spawn, flies, and insects, which constitute their food.

In the vicinity of these bare places, among thick tufts of grass, small associations of six or eight pair, take up their residence for the breeding season. They are, however, but sparingly dispersed over the marshes, selecting their favorite spots, while in large intermediate tracts, few or none are to be seen. Early in May, they begin to make their nests, which are at first slightly formed of a mere layer of old grass, just sufficient to keep the eggs from the moisture of the marsh; in the course of incubation, however, either to guard against the rise of the tides, or for some other purpose, the nest is increased in height with the dry twigs of salt marsh shrubs, roots of grass, sea-weed, and any other coarse materials which may be convenient, until the whole may now weigh two or three pounds. The eggs, four in number, are of a dark yellowish drab, thickly marked with large blotches of brownish-black. These nests are often situated within fifteen or twenty yards of each other, the respective proprietors living in mutual friendship.

While the females are sitting, their mates are either wading in the adjoining ponds, or traversing the marshes in the vicinity; but on the approach of any intruder in their peaceable community, the whole troop assemble in the air, and flying steadily with their long legs extended behind them, keep up a continual yelping note of *click, click, click.* Alighting on the marsh, they are often seen to drop their wings, and standing with their legs half bent, and trembling, they

seem to sustain their bodies with difficulty. In this singular posture they will sometimes remain for several minutes, uttering a curring sound, and quivering their wings and long shanks as if in the act of laboriously balancing themselves on the ground. A great deal of this motion is, however, probably in manœuvre, to draw the spectators' attention from their nests.

Although so sedentary in the breeding season, at times they extend their visits to the shores, wading about in the water and mud in quest of their food, which they scoop up with great dexterity. On being wounded, while in the water, they sometimes attempt to escape by diving, at which, however, they are by no means expert. In autumn, their flesh is tender and well flavored. They depart for the south early in September, and proceed probably to pass the winter in tropical America.

Length from the extremity of the bill to the end of the tail 14 inches, alar extent 28. The bill 3 inches long. Forehead, spot behind the eye, lower eyelids, sides of the neck, and all the lower side of the body pure white. Tail nearly even, sullied white. Line before the eye, auriculars, back part of the neck, scapulars and wings, black, with a green gloss. Legs and thighs pale carmine, thighs 3 inches long. The legs 4½, very thin and elastically flexible. Wings sharp pointed, extending 2 inches beyond the tail. Iris scarlet. — In the *female* or young, the back, scapulars, and tertials are dark brown.

STILT, OR LONG-LEGGED PLOVER.

(*Himantopus melanopterus*, MEYER. *Charadrius himantopus*, GMELIN, LATHAM, Ind. i. p. 741. sp. 3. L'Echasse, BUFFON. Ois. viii p. 114. t. 8.)

SP. CHARACT. — White; above, except the neck black; tail cinereous; legs vermilion red, very long. In the *old males*, all the nape and hind head white. — *Female* a little smaller, and without green reflections from the black above. — In the *young*, the feet are orange colored, with the mantle and wings brown, the feathers edged with whitish; top of the head, occiput, and nape, of a blackish

grey edged with whitish. This last stage of plumage constitutes the *H. mexicanus* of Brisson. v. p. 36. sp. 2.

The Stilt, though rare and accidental in its visits in the colder climates, is not uncommon in eastern Europe, along the borders of lakes in Hungary, and in the interior of Asia, where, as well as in Mexico and Brazil, and sometimes in Germany and France, it is known to pass the period of reproduction. In Egypt, where it arrives in October, it probably passes the winter. According to Temminck it was known to nest in the marshes near Abbeville in 1818, but their general resort for breeding is in the vast saline marshes of Hungary and Russia. Being a native of regions so contiguous to the southern limits of the United States, there is little doubt but that it visits the whole shores of the Mexican Gulph. Its habits are altogether maritime, and it is said to feed on the spawn of fish, tadpoles, gnats, flies and other aquatic insects. The legs of this bird are remarkably slender, and longer, perhaps in proportion, than in any other known bird, it consequently staggers and reels in its gait, while balancing itself on its stilt-like legs.

The length of this species, from the point of the bill to the extremity of the tail, is about 15 inches, and from the same to the claws nearly 20 inches. Face, neck, breast, and all the lower parts pure white ; this white takes a slight rosaceous tint on the breast and belly. Nape and hind head black, or blackish, with white spots. Back and wings black, with greenish reflections. Tail cinereous. Bill black. Iris carmine ; and the feet vermilion red.

OYSTER-CATCHERS. (Hæmatopus. *Lin.*)

In these the bill is long, robust, straight, and compressed, more particularly towards the point where it is bevelled off like a pair of scissors. Nostrils lateral, longitudinally cleft in the groove of the bill. Feet strong and muscular, the 3 toes directed forward, with the middle toe united to the outer by a membrane as far as the first articulation, and to the interior by a small rudiment; the toes themselves also bordered by a rudimental membrane. *Wings* of moderate size ; the 1st quill longest.

The Oyster-Catchers dwell exclusively along the borders of the sea, frequenting beeches and sandy shores, where they are seen to follow the waves, in quest of the marine insects, which they bear to the strand. They assemble in great flocks to undertake their migra-

tory voyages, but live in pairs during the season of reproduction; making their nests among the herbage, or in the saline and marshy meadows contiguous to the ocean. They run and fly swiftly, and utter a sharp and echoing cry. The moult is double; namely in spring and autumn, but the color of the plumage scarcely undergoes any change; the only well-marked difference in their livery is in the absence or presence of a white gorget on the throat. The sexes are likewise externally alike.

PIED OYSTER-CATCHER.

(*Hæmatopus ostralegus*, Lin. Wilson, viii. p. 15, pl. 64. fig. 2. [Summer Dress.] Phil. Museum, No. 4258.)

Sp. Charact. — Blackish; rump, band on the wing, base of the quills, tail feathers, and from below the breast, white; the bill and feet red. — *Summer dress*, glossy black; in *winter* a white crescent on the throat. — In the *Young* the back and wings are brownish black, and the bill and feet dusky.

The Oyster-Catcher is common to the north of both continents, breeding in Great Britain, France, Norway, and along the borders of the Caspian; it is even seen as far south as Senegal in Africa. But though common in New Jersey and the southern states as far as the Bahamas, where they likewise pass the period of reproduction; they are but rarely seen to visit the coast of Massachusetts. In Europe, they are said to retire somewhat inland at the approach of winter; in the United States they are seen at this season along the coasts which lie south of Cape Hatteras, on the borders of the Atlantic. They return to New Jersey by the close of April, and, frequenting the sandy sea beach, are now seen in small parties of two or three pairs together. They are generally wild and difficult to approach, except in the breeding season, and at times may be seen walking erectly and watchfully along the shore, now and then probing the sand in quest of marine worms, molusca, and minute

have been observed on the shores of the Cumberland, in Tennessee, by the 9th of September.

The Semipalmated Ring Plover, though so well suited for an almost aquatic life, feeds on land as well as marine insects, collecting weavels, and other kinds, and very assiduously coursing the strand at low water. In general, when not too eagerly hunted, they are but little suspicious, and may readily be approached by the fowler, as well as detained sometimes by whistling in imitation of their quailing call. On most occasions, and when flushed, they utter a reiterated, sharp, twittering and wild note, very much in unison with the ceaseless echoes of the breaking surge, and the lashing of the waves, near which they almost perpetually course, gliding and running with great agility before the retiring or advancing waters. This species is commonly fat and well flavored, and in early autumn, not uncommon in the markets of Boston and New York.

The American Ring Plover is about 8 inches in length, and 14 in alar extent. Front and chin white, the same color encircling the neck; a narrowish ring around the upper part of the breast, black; becoming broader at the sides; all below white. Fore part of the crown black; a band of the same color extending from the upper mandible, and covering the auriculars. Back, scapulars, and wing-coverts of a brownish ash-color. Primaries, dusky, marked with a line of white along the centre of the shafts, the inner webs nearly white. Tail, olive, deepening into black, and tipt with white; the outermost lateral feather white, and the 3 next broadly tipt with the same color: the outermost feather, in the *female?* with a shaded dusky blotch. Iris dark hazel; the eyelids yellow. — In *young* birds the neck ring, and fore part of the head is dusky. Wing coverts and scapulars edged very slightly with yellowish white. The tail as in the adult.

Subgenus. — Squatarola. *(Cuvier.)* Vanellus, *(Brisson, &c.)*

With the feet 4 toed; the hind toe very small.

Obs. — This species connects the true Plovers with the Lapwings, the latter of which are unknown in the United States. — The habits of these birds are altogether similar with those of the Plovers.

BLACK-BELLIED, or SWISS PLOVER.

(*Charadrius helveticus*, Bonap. *Tringa helvetica*, Lin. *Charadrius apricarius*, Wilson, vii. p. 41. pl. 57. fig. 4. *Vanellus helveticus*, Brisson. *V. melanogaster*, Bechstein. Temminck, d'Ornithologie, ii. p. 547. Phil. Museum, No. 4196.)

Sp. Charact. — Spotted; long axillary feathers, black. — *Summer* plumage, spotted, with black and white; beneath black. — *Winter* plumage, spotted black and yellow; beneath inclining to white. — *Young* and moulting individuals, below varied with black and whitish.

The Black-Bellied, or large Whistling Field Plover, is met with in most parts of the northern hemisphere, and in America is known to breed from the open grounds of Pennsylvania to the very extremity of the arctic regions. It is common around Hudson's Bay, Greenland, Iceland, and in all the inclement parts of Siberia, they also abound in the spring in the plains of Ostrabothnia, in Lapland. It is likewise believed to breed in the Highlands of Scotland. How far they extend their migrations to the south is not satisfactorily ascertained, though there is little doubt but that they spread themselves to the confines of Mexico, and they have been seen in considerable numbers in Louisiana and Carolina, during the winter. According to Wilson, they generally begin to visit the inland parts of Pennsylvania in the latter end of April, and less timid than the Golden

Plover, it often selects the plowed field for the site of its nest, where the ordinary fare of earth worms, larvæ, beetles, and winged insects now abound. The nest, as in most of the birds of this class, is very slightly and quickly made of a few blades of stubble or withered grass, in which are generally deposited four eggs, large for the size of the bird, (being scarcely a line short of two inches in length,) of a cream color slightly inclining to olive, and speckled nearly all over with small spots and blotches of lightish brown, and others of a subdued tint, bordering on lavender purple; the specks, as usual, more numerous towards the large end. In the more temperate parts of the United States, they have often two broods in the season, though only one in Massachusetts, where indeed, their nests are of rare occurrence. During the summer, the young and old now feed much upon various kinds of berries, particularly those of the early bramble, called dew-berries, and their flesh at this time is highly esteemed. About the last week in August, the Betel-Headed Plovers, (as they are called in New England,) descend with their young to the borders of the sea coast, where they assemble in great numbers from all their northern breeding places, now passing an unsettled and roving life, without any motive to local attachment, they crowd to such places as promise them the easiest and surest means of subsistence; at this time small shell-fish, shrimps and other minute marine animals, as well as the grasshoppers, which abound in the fields, constitute their principal fare.

They are at all times extremely shy and watchful, uttering a loud, rather plaintive, whistling note as they fly high and circling in the air, and are so often noisy, particularly in the breeding season, as to have acquired among many of the gunners along the coast, the name of the Black-Bellied Kildeer. From a supposed similarity, probably in the note, it is remarkable, that the inhabitants of the Ferro Islands,

denominate the Oyster-Catcher, *kielder*, and in Iceland, the male is named *tilldur*, and the female *tilldra*. Indeed the compass of voice in a great portion of this tribe of birds, more or less related to the Plovers, is remarkable for its similarity. The Betel-Headed Plovers, usually linger round the sea coast in the Middle States, till the commencement of November, when the frosts beginning sensibly to diminish their prospect of subsistence, they instinctively move off towards the south, proceeding probably, at this time, under the shade of twilight, as moving flocks are no where, as far as I can learn, seen by day. About the middle of September in the marshes of Chelsea, (Mass.) contiguous to the beach, they sometimes assemble at day break, in flocks of more than a thousand individuals together, and soon after disperse themselves in companies to feed on the shores, upon small shell-fish and marine insects. This crowding instinct, takes place a short time previous to their general migration southward.

The length of this species is about 12 inches, and 23 in alar extent. *Winter* plumage of both sexes. — Front, throat, abdomen, thighs, and upper tail coverts, white. Eyebrows, fore part of the neck, sides of the breast and flanks, white, mottled with cinereous and brownish spots. Upper parts of a blackish brown, varied with spots of greenish yellow, but all the feathers fringed with cinereous and whitish. Long axillary feathers, deep brownish black. Lower tail coverts with narrow diagonal dusky bands upon their outer barbs. Tail white, but somewhat rufous towards the extremity, marked with a few pale dusky bands on the lateral feathers. Bill, legs, and iris black. Hind toe very small, armed with a minute nail. Bill longer and stouter than in the Golden Plover. — *Spring* and *breeding* plumage of both sexes. A space between the eye, the bill, throat, sides and forepart of the neck, middle of the breast, belly and flanks, deep brownish-black. The front, a wide band above the eyes, sides of the neck, and of the chest, thighs, and abdomen white ; the nuchal region spotted with brown, black, and white. Hind-head, back, scapulars, and wing coverts dusky, the feathers all broadly terminated with white tips. On the great coverts and scapulars, large white spots.

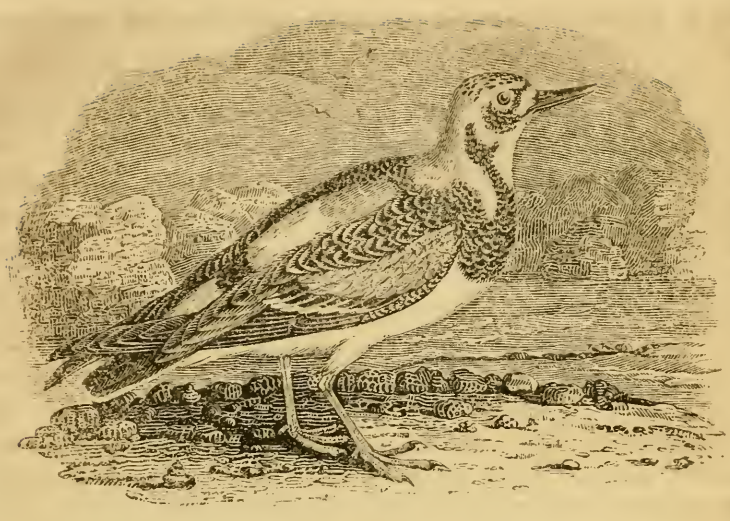
Middle tail feathers banded with black and white, the lateral ones nearly all white. Bastard wing, primaries, and their coverts, blackish-brown, the latter tipt with white ; middle of the quill shafts, and of the outer webs of the 6th and succeeding primaries, as well as the bases and borders of the secondaries, white.

Obs.—We, as well as Dr. Richardson, have never seen birds in the summer plumage, with the yellow spots on the dorsal feathers, figured by Wilson.

TURNSTONE. (Strepsilus, *Illig.*)

In these birds the bill is shorter than the head, robust, hard, straight, in the form of an attenuated cone, compressed, flattish above, and truncated at the point; upper mandible slightly recurved from the middle. Nostrils basal, lateral, long, and pervious, half closed by a membrane. Feet rather short, four-toed; a very small part of the tibia bare ; *toes* with a narrow margin, divided to their origin, the hind toe touching the ground. *Wings* long and acuminated; the 1st primary longest. Tail rather short, consisting of twelve feathers.

This genus comprehends only a single species common to all the world. Like the Sandpipers, with which they have usually been united, they are almost entirely maritime, following the retreating waves, and gleaning at the ebb of the tide, the various marine insects, and small shell-fish, which constitute their food. As may be supposed, from their name, they have a peculiar habit of dexterously turning over considerable stones with their bills, in quest of their insect prey. The sexes are scarcely distinguishable by any difference of plumage, and effect their moult half yearly. The young, however, differ much from the adult, and change repeatedly until the third year.



TURNSTONE, OR SEA DOTTEREL.

(*Strepsilus interpres*, ILLIG. *S. collaris*, TEMM. *Tringa interpres*, WILSON, vii. p. 32. pl. 57. fig. 1. [adult.] Phil. Museum, No. 4044.)

SP. CHARACT. — Throat, rump, and base of the tail, white; bill black; the feet orange red. — *Adult*, varied with black, ferruginous and white; breast black; belly white. — The *young* are dusky, varied with pale ferruginous and some white; breast dusky, and mottled.

THIS singular marine bird is not only common to the whole northern hemisphere, but extends its colonies even to Senegal and the Cape of Good Hope, in the southern half of the globe. Their favorite breeding resorts are, however, confined to the inclement regions of the north, to which they are in no haste to return, but linger along the coast in the temperate climates for several months, before they attain to the remote and desolate shores of their nativity. Their southern progress in America, is in all probability continued as far as the tropics, since their race even extends itself into the other hemisphere. Buffon, in fact, figures a specimen of the young bird from Cayenne. In New Jersey, accord-

ing to Wilson, they arrive in the month of April, and there linger until June, very soon after which they are seen at their breeding quarters, on the shores of Hudson's Bay, and along the desolate strand of the Arctic Sea, where they have been met with by the Northern navigators, as far as the 75th parallel. They already begin to depart from these remote boreal regions in August, in which month, and even towards the close of July, I have seen young birds for sale in the market of Boston. They visit the shores of Great Britain also about the same time, arriving thence probably from the arctic shores of Siberia. Five or six weeks later, they are observed to visit the borders of the Delaware, and proceed onward to the south as the weather increases in coldness. The most southern summer residence of this species known, if Mr. Fleming be correct, is the Scottish isle of Zetland. They are also said to inhabit the isles of the Baltic during summer. In a mere depression of the sand or gravel, along the sea coast, it is said to drop its eggs, which are four in number, and according to Mr. Hutchins, are of an olive green, spotted with blackish brown.

It is naturally of a wild and solitary disposition, coursing along the shore by pairs, or in small families which have been bred together. In the months of May and June, in New Jersey, they almost wholly feed upon the spawn of the King-Crab, or Horse-Foot, (*Monoculus polyphemus*, Lin.) which affords them and other animals an abundant and almost inexhaustible supply.

The Turnstone, while flying, often utters a loud twittering note, and runs at times with its wings lowered, but is less swift in its movements than most of the Sandpipers, and more patient and intent in obtaining its fare. Like the Woodpeckers it is content to search over the same place for a considerable length of time; the mechanism of its bill seems well provided for this purpose, and it is often seen in

this way turning over stones and pebbles, from side to side, in search of various marine worms and insects. The young feed also upon shrimps and different kinds of small shell-fish, particularly minute muscles which are occasionally cast up by the tides. According to Catesby, this habit, of turning over stones in quest of insects, is retained by the species even when subjected to domestication.

The length of the Turnstone is about 10½ inches. *Adult*, with a large spot on the lores, the upper sincipital band, which is prolonged over the eye, borders the ears, and meets with a second on the nape, the upper half and sides of the neck, the rump, longest tail coverts, tips of the greater wing coverts, bases of the quills, base and tip of the tail, the chin, belly, under tail coverts, and insides of the wings, white. Feathers of the crown black, with white borders. The base of the neck above the back, scapulars, tertiaries, and middle rows of lesser covers, chestnut brown, blotched with black. Upper border of the wing, greater coverts, and quills dark clove brown. Shorter tail coverts, outer half of the tail, lower sincipital band, that passes under the eye and spreads over the cheeks, a stripe from the rictus along the side of the throat, the fore part of the neck, breast, and shoulders, velvet black. Bill, black; legs, orange. — *The young of the year* have no trace either of black or chestnut. Head and nucha of a cinereous brown, barred with deeper brown; white spots upon the sides of the head and neck; throat and fore part of the neck whitish; the feathers on the sides of the breast, of a deep brown, with whitish tips; the other lower parts as well as the back, white; upper part of the back, scapulars and wing coverts of a deep brown, the feathers widely surrounded with yellowish borders; the transversal band of the rump dark brown, bordered with ferruginous. Feet yellowish red. The black and white appears more regularly disposed, as the bird advances in age. This state of plumage constitutes the *Tringa morinella*, Lin. *Coulond-chaud de Cayenne*, and *Coulond-chaud gris*, Buffon, Ois. Pl. Enlum, 340 and 857, two specimens of the young of the year. — The *young, when a year old*, have the wide patch or collar on the forepart of the neck and upon the sides of the breast, indicated by black feathers, edged with narrow whitish borders. The cheeks and front mottled with black, upon a whitish ground. The summit of the head and nucha, brown, spotted with blackish shades

of the same. Back, scapulars, and wing coverts, dusky; the feathers surrounded with rufous borders. A large black spot upon the outermost tail feathers, the rest of the plumage as in the adults.

CRANES. (Grus, *Pallas, &c.)*

In these birds the BILL is about the length, or somewhat longer than the head, it is strong, straight, compressed, attenuated at the point, which is somewhat obtuse; the mandibles with a wide furrow on either side at the base, ridge of the bill elevated. NOSTRILS situated in a furrow, in the middle of the bill, pervious, posteriorly closed by a membrane. *Region of the eyes*, and the base of the bill, often naked or warty. FEET long and robust, naked for a large space above the knees, the middle toe united to the outer by a rudimental membrane, the inner one divided, the hinder toe articulated high on the tarsus. *Wings* of moderate dimensions, 1st and 5th primaries about equal; the 2d, 3d, and 4th longest; secondaries broader and wider than the primaries; the tertials arched and much elongated. The *tail* short, of 12 feathers.

The food of this family of birds is various, and besides insects, reptiles, worms and fish, some species likewise frequent ploughed and newly planted fields to pick up seeds, as well as living prey. They dwell in fields, marshes, and frequent the margins of ponds, but always roost in trees, where they also nest, as well as on the ground, though the European species, useful, familiar and venerated, often selects the roofs of deserted houses for its eyry. When incubation commences, the nest is raised to the height of the body with grass and reeds; they are said to lay but 2 eggs, on which each alternately brood in a standing posture, while the other keeps a careful watch. They migrate in vast flocks, and perform very extensive periodical journeys, passing along often out of sight in the higher regions of the atmosphere, moving in the night, in troops arranged in long triangular lines, at the shrill voice of their leader, which re-echoed by the timorous and unseen ranks, affords often the only indication of the course of their passage. Subject to less excitement, they pass along silently and at a great elevation in fine weather, but lower their flight, and become clamorous, at the approach, or during the existence of a storm. Species inhabit both

continents. The sexes are scarcely distinguishable from each other in their plumage; but the young differ much from the old until the third year. The remarkable compass of their sonorous voice is attributed to the peculiar formation of the windpipe, which enters the keel of the sternum or breast-bone into a cavity for its reception, from whence it returns after being twice reflected.

WHOOPING CRANE.

(*Grus americana*, Temm. Bonap. *Ardea americana.* Wilson, viii. p. 20, pl. 64, fig. 3. [adult male.] Buff. Pl. Enlum. 889. Phil. Museum, No. 3704.)

Sp. Charact. — White; primaries black, and with black shafts; the whole crown and cheeks bald. — The young, tawny.

This stately Crane, the largest of all the feathered tribes

in the United States, like the rest of its family, dwelling amidst marshes, and dark and desolate swamps, according to the season, is met with in almost every part of North America, from the islands of the West Indies, to which it retires to pass the winter, to the utmost habitable regions and fur-countries of the north. A few hybernate in the warmer parts of the Union, and some have been known to linger through the whole of the inclement season in the swamps of New Jersey, near to Cape May. When discovered in their retreats, they are observed wandering along the marshes and muddy flats near the sea-shore, in quest of reptiles, fish, and marine worms. Occasionally they are seen sailing along from place to place with a heavy, silent flight, elevated but little above the surface of the earth. Ever wary, and stealing from the view of all observers, these gaunt shades of something which constantly avoids the social light, impress the mind no less with curiosity than aversion, and it is surprising, that furtive and inharmonious as owls, they have not excited the prejudice of the superstitious.

At times they utter a loud, clear, and piercing cry, that may be heard to a very considerable distance, and which, being not unaptly compared to the whoop or yell of the savages when rushing to battle, has conferred upon our bird his peculiar appellation. Other species of the genus possess also the same sonorous cry. When wounded they attack those who approach them with considerable vigor, so much so as to have been known to dart their sharp and dagger-like bill through the incautious hand held out for their capture. Indeed, according to Dr. Richardson, they have sometimes driven the fowler fairly out of the field.

In the winter season, dispersed from their native haunts in quest of subsistence, they are often seen prowling in the low grounds, and rice fields of the Southern States in quest

of insects, grain, and reptiles; they swallow also mice, moles, rats, and frogs with great avidity, and may therefore be looked upon, at least, as very useful scavengers. They are also, at times, killed as game, their flesh being well flavored, as they do not subsist so much upon fish as many other birds of this family. It is with difficulty, however, that they can be approached, or shot, as they are so remarkably shy and vigilant. They build their nests on the ground, after the manner of the common Crane of Europe, selecting a tussock of long grass, in some secluded and solitary swamp, raising its sides to suit their convenience, so as to sit upon it with extended legs. The eggs are two in number, as large as those of the swan, and of a bluish white color, blotched with brown.

The Whooping Crane rises with difficulty from the ground, flying low for a time, and thus affording an easy mark for the sportsman. At other times they fly around in wide circles, as if reconnoitering the surrounding country for fresh feeding ground; occasionally they rise spirally into the air to a great height, mingling their screaming voices together, which are still so loud, when they are almost out of sight, as to resemble a pack of hounds in full cry. Early in February, Wilson met with several of these Cranes in South Carolina; at the same season, and in the early part of the following month, I heard their clamorous cries nearly every morning around the enswamped ponds of West Florida, and throughout Georgia, so that many individuals probably pass either the winter or the whole year in the southern extremity of the Union.

It is impossible to describe the clamor of one of these roosting flocks, which they begin usually to utter about sunrise. Like the Howling Monkeys or Preachers of South America, (as they are called,) a single individual seemed at first as if haranguing, or calling out to the assem-

shell fish. Their larger prey is sometimes the small burrowing crabs called Fiddlers, as well as muscles, solens, and *oysters*, their reputed prey in Europe. They seldom, however, molest the larger shell-fish in the United States, preferring smaller and less precarious game. Catesby, at the same time, asserts that he found oysters in the stomach, and Willughby adds, that they sometimes swallowed entire limpets. According to Belon, the organ of digestion is indeed spacious and muscular, and the flesh of the bird is black, hard, and rank flavored. Yet in the opinion of some, the young, when fat, are considered as agreeable food. The nests of the Oyster-catchers are said often to be made in the herbage of the salt marshes, but on the Atlantic coast they commonly drop their eggs in slight hollows scratched in the coarse sand and drift, in situations just sufficiently elevated above the reach of the summer tides. The eggs about 3 or 4, laid from the first to the third week in May, are nearly the size of those of the domestic hen, of a bluish or simple cream color, inclining to olive, marked with large roundish spots of two shades of brownish black. From the 15th to the 25th of May, the young are hatched, and run about nimbly almost as soon as they escape from the shell. At first they are covered with a down nearly the color of the sand, but marked with a line of brownish black on the back, rump, and neck. In some parts of Europe, they are so remarkably gregarious in particular breeding spots, that a bushel of their eggs in a few hours might be collected from the same place.

Like Gulls, and other birds of this class, incubation costs much less labor than among the smaller birds, for the female sits on her eggs only during the night and morning, or in cold and rainy weather. The heat of the sun and sand alone being generally sufficient to hatch them, without the aid of the bird by day. The nest is, however, assiduously

watched with the usual solicitude of parental affection, and on the least alarm, the male starts off with a loud scream, while the female, if present, to avoid the discovery of her charge, runs out some distance previous to taking wing. The young, as soon as released from the shell, follow the guiding call of the mother, and on any imminent danger threatening, instinctively squat on the sand, when from the similarity of their color, it is nearly impossible to discover their artless retreat. On these occasions, the parents make wide circuits on either hand, now and then alighting, and practising the usual stratagem of counterfeited imbecility, to draw away attention from their brood. The note of this species consists commonly of a quick, loud, and shrill whistling call like *'wheep, 'wheep, wheo,* or *peep, peep,* often reiterated, as well at rest as while on the wing.

While migrating, they keep together in lines like a marshalled troop, and however disturbed by the sportsman, they still continue to maintain their ranks. At a later period, the flock will often rise, descend, and wheel about with great regularity, at the same time bringing the brilliant white of their wings into conspicuous display. When wounded, and at other times, according to Baillon, they betake themselves to the water, on which they repose, and swim and dive with celerity. They have sometimes also been brought up and tamed so as to associate familiarly with ducks and other poultry.

The length of this species is about 18 inches, the alar admeasurement 35. The bill from 3¼ to 3¾ inches long, and of a very lively orange; orbits of the same color. Iris bright yellow. Beneath the eye a small spot of white, and a large bed of the same on the wing-coverts. Head, neck, scapulars, rump, quills, and tail, black; several of the primaries are marked on their outer vanes with a slanting band of white. Secondaries white, part of them tipt with black. The whole lower part of the body, sides of the rump, tail-coverts, and that portion of the tail which they cover, pure white. The

closed wings cover the whole white plumage of the back and rump. Legs pale red. Obs. Some authors say they are of a fine coral red, others of a red orange, and hence Belon denominated it *Hæmatopus*, from αιμα, *blood*, and πους, the *foot*.

MANTLED OYSTER-CATCHER.

(*Hæmatopus palliatus*, Temminck.)

Sp. Charact. — Back, scapulars, and wings, cinereous brown; bill and feet more robust.

This species, introduced on the authority of Temminck, is found in Brazil and tropical America generally, and may consequently be expected occasionally on the coast of Florida. In this race, the bill is constantly longer, and as well as the feet more robust. With its habits, if at all different from those of the common species, we are as yet unacquainted.

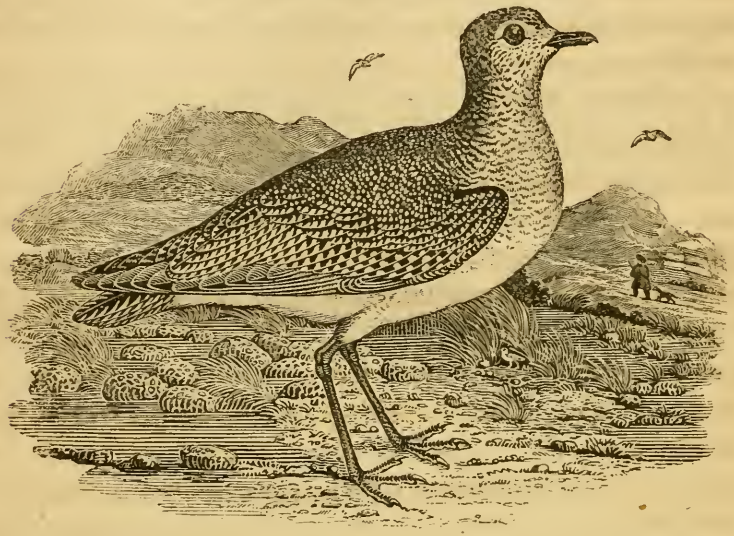
Note. — A third species of this genus, the *Hæmatopus niger* of Cuvier, is likewise met with in South Africa, and Australia. This kind is a little larger than the common Oyster-Catcher, with the plumage entirely black, and the bill and feet coral red.

PLOVERS. (Charadrius, *Lin.*)

In these the bill is shorter than the head, rather slender, straight, and compressed. Nostrils basal, notched, longitudinally cleft in the middle of a large membrane, which covers the nasal fosse, the groove of the nostrils also continued along two-thirds of the bill. The feet long, or only of moderate length, and slender, the 3 toes directed forward; the exterior one united to the middle toe by a short membrane, inner toe generally divided, the hind one wanting. *Tail* faintly rounded, or square. The *wings* of moderate dimensions; the 1st primary a little shorter than the 2d, which is the longest.

The Plovers generally associate in small flocks, and the whole emigrate in companies of greater or less extent; the young collect together, pursuing their route apart from the old, and after their departure. They live principally upon small worms, and aquatic insects. The common species, and the *Guignard*, frequent the marshes and muddy borders of the larger or smaller rivers, and rarely frequent sea-shores; the other species live more habitually

upon the coasts, and near the outlets of streams. The moult in most of the species is double, and the sexes are scarcely distinguishable by any exterior markings, except in the *C. cantianus*, in which the moult is only annual, and the sexes distinguishable by their livery. Some exotic species of the genus bear spines upon the shoulders of the wings, being, in fact, an approach towards the developement of claws on the anterior extremities! several other species have fleshy excrescences upon the head or mandibles.



† *Inner toe cleft.*

THE COMMON, OR GOLDEN PLOVER.

(*Charadrius pluvialis*, Lin. Wilson, Am. Orn. vii. p. 71. pl. 59. fig. 5. [the young] *C. apricarius*, Gmel. Wilson, vii. p. 41. pl. 57. fig. 4. [the adult in summer plumage.] Phil. Museum, No. 4196.)

Sp. Charact. — Spotted with black and lemon yellow; long axillary feathers yellowish grey. — *Summer plumage*, beneath black; in *winter* below white, tinged with yellowish grey. — The *young* or moulting birds duller, and beneath varied with black and whitish.

The Common Plover is, according to the season of the year, met with in almost every part of the world, particularly

in Asia and Europe, from Kamtschatka to China, as well as in the South Sea Islands; and on the present continent from Arctic America, where it breeds, to the Falkland Islands: it is also seen in the interior, at least as far as Missouri. They breed in Siberia, and in the northern parts of Great Britain, but not in France or Italy, where they are also common. At such times, they select the high and secluded mountains sheltered by the heath, where, without much attempt at a nest, they deposit about 4, or sometimes 5 eggs of a pale olive color, marked with blackish spots.

They arrive on the coast of the middle and northern states in spring and early autumn. Near to Nantasket and Chelsea beach, they are seen, on their return from their inclement natal regions in the north, by the close of August, and the young remain in the vicinity till the middle of October, or later, according to the state of the weather. They live principally upon land insects, or the larvæ and worms they meet with in the saline marshes, and appear very fond of grasshoppers. About the time of their departure they are, early in a morning, seen sometimes assembled by thousands, but they all begin to disperse as the sun rises, and at length disappear high in the air for the season. They usually associate, however, in small flocks and families, and when alarmed, while on the wing, or giving their call to those who are feeding around them, they have a wild, shrill and whistling note, and are at most times timid, watchful, and difficult to approach. Though they continue associated in numbers for common safety during the day, they disperse in the evening, and repose apart from each other. At day-break, however, the feeling of solitude again returns, and the early sentinel no sooner gives the shrill and well known *call* than they all assemble in their usual company. At this time, they are often caught in great numbers by the fowler, with the assistance of a clap-net, stretched before

dawn, in front of the place they have selected to pass the night. The fowlers now surrounding the spot, prostrate themselves on the ground when the call is heard, and as soon as the birds are collected together, they rise up from ambush, and by shouts, and the throwing up of sticks in the air, succeed so far in intimidating the Plovers that they lower their flight, and thus striking against the net, it falls upon them. In this, and most other countries, their flesh, in the autumn, and particularly that of the young birds, is esteemed as a delicacy, and often exposed for sale in the markets of the principal towns.

The Golden Plover is about 10½ inches long, and 21 in alar stretch. Bill and legs black. Upper plumage greenish black, regularly spotted on the tips and margins with lemon yellow, the spots whitish on the wing-coverts; greater coverts and primaries unspotted. Tail barred. Front and a space above the eyes white, sides of the neck also white, but spotted with dusky and yellow. Below black, spotted with yellow on the sides of the breast under the wing. At the commencement and close of the breeding season many individuals are seen with the under plumage varied with black and white.

PIPING RINGED PLOVER.

(*Charadrius melodus*, Ord. Bonap. Synops. et Am. Orn. 4. p. 74. pl. 24. fig. 3. [summer dress.] *C. hiaticula*, var. Wilson, v. p. 30. pl. 37. fig. 3. Phil. Museum, No. 4150.)

Sp. Charact. — Whitish ash color, tinged with brown; front, collar, and beneath, white; frontlet and sides of the neck, beneath the white collar, black; the bill and feet orange, but the former black towards the tip. — *Adult*, with a black frontlet and interrupted neck ring. — *Young*, and *autumnal?* bird without the dark marks on the head and neck, and with the bill wholly blackish.

This species, like the Semipalmated Plover, is a common inhabitant of our sea coast, arriving in the middle states

from their southern hybernal retreats, towards the close of April. It does not, however, proceed so far to the north, but resides and breeds in the United States, from the shores of New Jersey to Nova Scotia. Along the low, sandy, and solitary borders of the sea, in small scattering flocks, they are therefore seen throughout the summer, rapidly coursing over the strand, either in quest of their food, or to elude the search of the intruding spectator. After gliding swiftly along for a little distance, they often stop for a short interval to watch any approach, or pick up some insect, occasionally bending forward, and jerking the head up in a balancing attitude; when still, their pale livery so nearly resembles the color of the sand, that for the instant, they are rendered nearly invisible. On approaching their nests, which are mere shallow hollows in the sand and gravel, they usually exhibit considerable emotion, running along with outspread wings and tail, and fluttering as if lame, to attract attention from their eggs and young. They will sometimes practise this artifice at a considerable distance from their brood, and often follow the spectator for a mile or two, making their shrill, mournful, monotonous call, frequently alighting and running, with a view to deception, near any place which happens to be examined; and by these reiterated feints and fears it becomes often nearly impossible to discover their breeding haunts. About the 20th of May, or later, as they proceed to the north, they commence laying, the eggs, being about 4, rather large, of a pale cream color, or nearly white, irregularly spotted and blotched nearly all over with blackish-brown, and many subdued tints of a much paler color.

The voice of this species, uttered while running along the strand, is rather soft and musical, consisting chiefly of a single, varied, and repeated, plaintive note. On approaching the breeding spot, they wheel around in contracting

circles, and become more clamorous, piping out, in a tone of alarm, *'ke-bee*,* and *keeb, keeb,* then falling off into a more feeble *kée-boo,* with occasionally a call of *kib.* At times, in the same sad and wild accent with the vociferous Lapwing, we hear a cry of *kee-wee,* and even the same *pai-wee, pee-voo,* and *pai-voo.* When in hurry and consternation, the cry resembled *'pit, 'pit, 'pit, 'pt.* Sometimes, in apparent artifice, for the defence of their tender brood, besides practising alarming jestures, they even squeak like young birds in distress.

The food of this species is quite similar with that of the Semipalmated Ring Plover; indeed the birds are scarcely to be distinguished but by the paleness of the plumage in the present, and the shortness of the web between the exterior toes. They are usually fat, except in the breeding season, and much esteemed as game.

The Piping Ringed Plover, is nearly of the same size as the Semipalmated species, exceeding it scarcely half an inch in length, with the bill of the same two colors, and somewhat stouter. The front, side of the face, a broad ring round the neck, and the whole of the lower parts pure white, except the side of the breast, which is marked with a broad and somewhat curving patch of black, never extending so far forward on the neck below as to form a continuous ring. Another patch of black extends across the front before and between the eyes. Head and upper parts pale cinereous, tinged with brown, lightest on the head, and darkest on the shoulder of the wing. Primaries, dusky brown, nearly white on their inner webs, and with a narrow, white patch along the anterior part of the shafts; the lesser primaries white towards the base, and on the greater part of the outer web; the greater coverts broadly tipt with white; secondaries nearly white, except at their outer extremities; subaxillary plumage pure white. Tail nearly even, the 2 outer lateral feathers wholly white, (in the male,) the succeeding feather with a dusky blotch, and the next broadly tipt with white, the central feathers white, tinged with brown above, gradually becoming dusky towards their extremities. Eye, black, surrounded with a narrow ring of yellow. Legs bright yel-

* The first syllable uttered with a guttural lisp

low, inclining to orange, claws black. — *Young*, without any of the black marks, the cervical patch and whole head being equally cinereous, and the bill black, except towards the base.

WILSON'S PLOVER.

(*Charadrius Wilsonius*, Ord. Wilson. ix. p. 77, pl. 73, fig. 5. Phil. Museum, No. 4159, [male.] No. 4160, [female].)

Sp. Charact. — Olive ash color; front, collar, and beneath white; frontlet, and a broad ring around the base of the neck, black; bill black; feet flesh color. — *Adult*, with a black sincipital band. — In the *young*, the band of the hind head, with the frontlet and neck-ring is dusky.

Of this species, which sparingly inhabits the middle and Southern States during summer, very little is yet known. The specimens, from which the description was taken, were shot on the 13th of May, on the shore of Cape Island, in New Jersey, by Wilson, and possess much the appearance of the preceding species. They seem to have a predilection for the strand and the vicinity of the sea, and probably nest and breed just above the reach of the summer tides. When observed, they were heard to utter an agreeable piping note, like most of the birds of the same section to which they belong.

This species is about 7¾ inches, and 15½ in alar stretch. Front broad and white, bounded by a widish band of black; the lores also black. From the middle of the eye backwards a stripe of dull white. Above olive drab, the auriculars and nape tinged with rufous brown. Below white, with a broad band of black on the breast, preceded by another of white. Quills brownish black, some of the shafts and their edges white. Iris dark. Legs and feet flesh colored; claws black. Tail even, blackish olive, the two outer feathers whitish. Bill black and stout, an inch long, the upper mandible projecting. — The *female* without the black on the forehead, lores, or breast.

KILDEER PLOVER.

(*Charadrius vociferus*, Lin. Wilson, Am. Orn. vii. p. 73. pl. 59. fig. 6. Arct. Zool. No. 400. Phil. Museum, No. 4174.)

Sp. Charact. — Dark olive grey; front, collar, and beneath, white; a broad ring round the neck, and belt on the breast, black; the rump tawny orange, and the tail wedge-formed.

The well known, restless, and noisy Kildeer is a common inhabitant throughout the United States, in nearly all parts of which it is known to breed, wintering however, generally to the south of Massachusetts. In the interior, it also penetrates to the sources of the Mississippi, the remote plains of the Saskatchewan,* and Vieillot met with it even in St. Domingo. On the return of spring, it wanders from the coast, to which it had been confined in winter, and its reiterated and shrill cry is again heard as it passes through the air, or as it courses the shore of the river, or the low meadows in the vicinity of the sea. About the beginning of May, it resorts to the fields, or level pastures, which happen to be diversified with pools of water, and in such situations, or the barren sandy downs in the immediate vicinity of the sea, it fixes upon a place for its nest, which is indeed a mere slight hollow, lined with such straw and dry weeds, as come most convenient. In one instance, Wilson saw a nest of the Kildeer curiously paved and bordered with fragments of clam and oyster shells: at other times no vestige of an artificial nest is visible. The eggs usually 4, large, and pointed at the smaller end, are of a yellowish cream color, thickly marked with blackish blotches.

At all times noisy and querulous to a proverb, in the breeding season, nothing can exceed their anxiety and alarm; and the incessant cry of *kildeer, kildeer*, or *te te de*

* *Richardson's* Northern Zoology, Part II. p. 368.

dit, and *te dit*, as they waft themselves about over head, or descend, and fly around you, is almost deafening. At the same time, to carry out this appearance of distress, they run along the ground, with hanging wings, counterfeiting lameness to divert the intention of the intruder. Indeed no person can now approach the breeding place, though at a considerable distance, without being molested with their vociferous and petulant clamor. During the evening, and till a late hour, in moonlight nights, their cries are still heard, both in the fall and spring. They seek their fare of worms and insects often in the twilight, so that their habits are, in some degree nocturnal, but they also feed largely on grasshoppers, crickets, carabi, and other kinds which frequent grassy fields by day.

The flight of the Kildeer is remarkably vigorous, and they sometimes proceed at a great height in the air. They are also fond of washing themselves, and wading in the pools, which they frequent for insects; their gait is perfectly erect, and like most of their tribe, they run with great celerity. As game, their flesh, like that of the Lapwing, is musky, and not generally esteemed; in the fall, however, when fat, they are by some considered as well flavored. Towards autumn, families descend to the sea shore, where their behavior now becomes more circumspect and silent.

This species is about 10 inches long, and 20 in alar extent. Bill black. Fore part of the crown and auricular region, dark grey. Eyelids scarlet. Iris black. A white stripe through and beyond the eye. Primaries blackish, partly white on the inner webs; the secondaries with an irregular blotch of white on their outer vanes; the greater coverts broadly tipt with white. Rump and tail coverts, tawny orange. Tail with the 2 middle feathers dark grey, the next tipt with tawny, and the outer ones with a large indented spot of white; these are below tawny, and black towards the extremities; the outermost feathers elegantly barred with black on the inner web. Legs and feet, yellowish-olive. *(Old female.)*

†† *All the toes connected at base by a membrane.*

SEMIPALMATED RING PLOVER.

(*Charadrius semipalmatus*, Bonap. Synops. et Am. Orn. iv. p. 92, pl. 25. fig. 4. [young,] *Tringa hiaticula*, Wilson, Am. Orn. vii. p. 65. pl. 59. fig. 3. [adult in spring dress,] Phil. Museum, No. 4750.)

Sp. Charact. — Dark brownish-ash; front, collar, and beneath white; frontlet, and a ring round the base of the neck, black; bill and semipalmated feet orange, the former black at tip. — *Adult*, sincipital band and auriculars black. — In *young* and *autumnal* birds, the neck ring is dusky.

This small species, so nearly related to the Ring Plover of Europe, arrives from the south along our sea coasts, and that of the middle states, towards the close of April, where they are seen feeding and busily collecting their insect fare, until the close of May. They then disappear on their way farther north to breed, and in the summer are even observed as far as the icy shores of Greenland. According to Richardson, they abound in Arctic America during the summer, and breed in similar situations with the Golden Plover. Mr. Hutchins adds, its eggs, generally 4, are dark colored, and spotted with black. The aborigines say, that on the approach of stormy weather, this species utters a chirping noise, and claps its wings, as if influenced by some instinctive excitement. The same, or a very similar species, is also met with in the larger West India islands, and in Brazil, according to the rude figure and imperfect description of Piso.

The early commencement of inclement weather, in the cold regions selected for the breeding haunts of this species, induces them to migrate to the south, as soon as their only brood have acquired strength for their indispensable journey. Flocks of the old and young are thus seen in the vicinity of Boston, by the close of the first week in August, and they

bled company, and after uttering a round number of discordant, sonorous, and braying tones, the address seemed as if received with becoming applause, and was seconded with a reiteration of jingling and trumpeting hurras. The idea conveyed by this singular association of sounds, was so striking, quaint, and ludicrous, that I could never hear it without smiling at the conceit. Captain Amidas, (the first Englishman who ever set foot in North America) thus graphically describes their clamor, on his landing on the isle of Wokokou, off the coast of North Carolina, in the month of July, "Such a flock of Cranes (the most part white) arose under us, with such a cry, redoubled by many echoes, as if an army of men had showted all together." But though this display of their discordant calls may be amusing, the bustle of their great migrations, and the passage of their mighty armies fills the mind with wonder. In the month of December, 1811, while leisurely descending on the bosom of the Mississippi, in one of the trading boats of that period, I had an opportunity of witnessing one of these vast migrations of the Whooping Cranes, assembled by many thousands from all the marshes and impassable swamps of the north and west. The whole continent seemed as if giving up its quota of the species to swell the mighty host. Their flight took place in the night, down the great aërial valley of the river, whose southern course conducted them every instant towards warmer and more hospitable climes. The clangor of these numerous legions, passing along, high in the air, seemed almost deafening; the confused cry of the vast army continued, with the lengthening procession, and as the vocal call continued nearly throughout the whole night, without intermission, some idea may be formed of the immensity of the numbers now assembled on their annual journey to the regions of the south.

The following, elegant poetic description of the annual migration of the Crane of Europe, is perfectly applicable to the instinct of our species:

> Part loosely wing the region, part more wise,
> In common, ranged in figure (≻) wedge their way,
> Intelligent of seasons, and set forth
> Their aery caravan, high over seas
> Flying, and over lands with mutual wing,
> Easing their flight; so steers the prudent Crane
> Her annual voyage, borne on winds, the air
> Flotes, as they pass, fann'd with unnumber'd plumes.*

The Whooping Crane is about 4 feet or upwards in length, and when standing erect, measures nearly 5 feet. The bill is wax yellow, 6 inches in length, and an inch and a half in thickness. Iris yellow. The forehead, whole crown, and cheeks are covered with a dull orange colored warty skin, thinly interspersed with black hairs. Hind head, ash color; the rest of the plumage pure white, except the primaries, which are brownish black; from the base of each wing arises numerous large flowing feathers, which project over the tail and tips of the wings, some of them are loosely webbed like the feathers of the Ostrich. The legs and naked part of the thighs are black. The hind toe articulated too high to reach the ground.

BROWN CRANE.

(*Grus canadensis*, Temm. Bonap. Synops. No. 225. *G. fusca*, Vieill. *Ardea canadensis*, Forster.)

Sp. Charact.—Cinereous; wings varied with testaceous; primaries brown, with white shafts; anterior portion of the head bald.

This species, scarcely inferior to the preceding in magnitude, visits all parts of the fur countries in summer, up to the shores of the Arctic sea; and is indeed, according to the season, spread more or less throughout North America,

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* Milton's Paradise Lost, Book 7, line 425, et seq.

having been observed in Mexico, Louisiana, and Florida. It also probably breeds in the interior of the continent, as Major Long saw it in the Illinois country, on the 15th of July. As early as the 7th of February, Kalm observed them passing over New Jersey and Pennsylvania, on their way either to the north or west, but as the Atlantic coast has become more settled and populous, these shy birds have, for the most part, altered their route, and now proceed more within the wilder interior of the continent. In May, they are seen about Hudson's Bay, and like the Whooping Crane, which they resemble in manners, they nest on the ground, laying two eggs, of an oil green, irregularly, and rather thickly spotted with yellowish brown and umber, the spots confluent and dark on the greater end. The flesh is accounted good food, resembling that of the Swan *(Cygnus buccinator)* in flavor.

This species is about 48 inches long, of which the bill, measured from above, is 4½ inches; the bill, however, varies in size. The general color yellowish grey; the dorsal plumage glossed with ferruginous. Neck above, ash colored; cheeks and throat brownish white. Primaries blackish brown; their shafts white. All the upper surface of the head, before and between the eyes, and the lores, covered with a red skin, pretty thickly clothed with black hairs. Bill blackish brown.

GREAT WHITE CRANE.

(*Grus* *. . . . . AUDUBON, MSS.)

Of this interesting species, found by Audubon in the vast swamps of East Florida, we yet know no particulars, excepting the specific character of its being wholly white, and scarcely inferior in magnitude to the Whooping Crane, whose general habits it in all probability possesses. Since its discovery, we have, I believe, heard of a specimen having been obtained in the vicinity of Charleston, S. C.

HERONS. (Ardea, *Lin. Temm.*)

With the bill long, and acuminated into a sharp point, being robust, straight, and compressed to an edge, the ridge rounded; the upper mandible faintly channelled. Nostrils, lateral, basal, placed in the furrow of the mandible, and half closed by a membrane. *Lores* and *Orbits* naked. Feet long and slender; a naked space above the knee; middle toe united to the outer one by a short membrane; the interior divided; hind toe articulated internally, and on a level with the rest. *Nails* long, compressed and sharp, that of the middle toe serrated internally. The *wings* of moderate dimensions, obtuse; the 1st primary nearly equal with the 2d and 3d, which are longest. The *tail* short and rounded, consisting of 10 or 12 feathers.

Birds of this genus are found dispersed over the whole earth, and many approach to each other by the slightest shades of distinction, having as it were their representatives in different quarters of the world. Like the Cranes, whose manners they in a great degree possess, they perform extensive journies, migrating in large and marshalled troops: this gregarious habit also continues through the season of reproduction, many individuals of this, and even of different species, nesting together in the same swamp or forest, though they are all strictly monogamous, the female hatching, while the male watches and supplies her with food, but both unite in the charge of nursing and rearing the very imbecile young, which remain in the nest until they are fully fledged. Their nests are usually made with sticks, and lined with wool; but if they chance to find a nest, like that of the rook, suitable for their purpose, they take no pains to build a new one. Their habits, however, like those of amphibious quadrupeds, are gloomy and voracious, and their instinct scarcely superior to that of the fish and reptiles on which they principally feed. During the day they generally remain in indolent repose, awaking only to the calls of hunger, chiefly at the approach of evening, or the setting in of twilight. Their raucous and discordant cries are now heard at solemn intervals; or, as they traverse the aërial space, at a great elevation, towards the haunts of their prey. Their flight is ample, slow, and graceful, with the neck bent backwards, and the head in indolent ease, still resting against the back; the long legs stretched out behind, appear like a tail, and probably answers the purpose of a rudder in directing the motions. Their favorite resorts are the uncultivated borders of lakes, rivers, marshes, and gloomy

swamps, solitudes which they court no less from disposition than necessity, as such places abound in their fare of fish, frogs, moles, mice, worms and insects. They often wait motionless for the approach of their prey, secreting themselves in the tall grass by the margin of ponds and marshes, and strike with great certainty at any thing within their reach. When tired of this inactivity, often unsuccessful, they move slowly through the mud and water, stirring up by their feet the fish and frogs which may be lurking round them.

The plumage in the adult of both sexes is similar, but the young differ much from the old, obtaining their full dress only after the third year. The ornaments of the adult consist of tufts of long feathers, with decomposed barbs, which, after the annual moult, are not immediately renewed, and appear principally to belong to the nuptial season. Their down is remarkably silky, and in all the species, beneath the other feathers, are found four spaces, provided with a matted mass of down. The species, though generally large, differ much in relative size, this disparity alone sometimes offering the best distinction of the different races. The presence of but one cæcum as in quadrupeds, instead of two, as in other birds, is a peculiarity of the Herons, in which they even differ from the Storks, and the rest of their tribe.

Subgenus. — Ardea. (*True Herons.*)

In this group the bill is much longer than the head, and quite straight. The *neck* also is very long and slender, below decorated with elongated drooping plumes; the body is also compressed on the flanks. The legs very long, and the naked space above the tarsus extensive. — This section embraces the largest birds of the genus, which feed principally on fish, and seek their food usually by day.

GREAT HERON.

(*Ardea herodias*, Lin. Arct. Zool. No. 341. Wilson, viii. p. 28. pl. 65. fig. 2. [adult.] Phil. Museum, No. 3629.)

Sp. Charact. — Crested; bluish-ash; thighs purplish ferruginous; middle toe much shorter than the tarsus. — *Adult*, with the crown of the head bluish-black and white, with two long slender and exserted black feathers; the back presenting long tapering white plumes. — In the *young*, no long feathers on the back, and with the crown wholly dusky.

The Great Heron of America, no where numerous, may be considered as a constant inhabitant of the Atlantic States, from New York to East Florida; in the storms of winter

seeking out open springs, muddy marshes, subjected to the overflow of tides, or the sheltered recesses of the cedar and cyprus swamps contiguous to the sea coast. As a rare or accidental visitor, it has been found even as far north as Hudson's Bay, and commonly passes the breeding season in small numbers along the coasts of all the New England States, and the adjoining parts of British America. Mr. Say also observed this species at Pembino, in the 49th parallel. Ancient natural heronries of this species occur in the deep maritime swamps of North and South Carolina : similar associations for breeding exist also in the lower parts of New Jersey. Their favorite and long frequented resorts are usually dark and enswamped solitudes, or boggy lakes, grown up with tall cedars, and entangled with an undergrowth of bushes and Kalmia laurels. These recesses defy the reclaiming hand of cultivation, and present the same gloomy and haggard landscape they did to the aborigines of the forest, who, if they existed, might still pursue through the tangled mazes of these dismal swamps, the retreating bear, and timorous deer. From the bosom of these choked lakes, and arising out of the dark and pitchy bog, may be seen large clumps of the tall Cypress *(Cupressus disticha,)* like the innumerable connecting columns of the shady mangrove, for sixty or more feet rising without a branch, and their spreading tops, blending together, form a canopy so dense as almost to exclude the light from beneath their branches. In the tops of the tallest of these trees, the wary Herons, associated to the number of ten or fifteen pair, construct their nests, each one in the top of a single tree ; these are large, formed of coarse sticks, and merely lined with smaller twigs. The eggs, generally 4, are somewhat larger than those of the hen, of a light greenish blue, and destitute of spots. The young are seen abroad about the middle of May, become extremely fat and full

grown before they make any effective attempts to fly. They raise but a single brood; and when disturbed at their eyries, fly over the spot, sometimes honking almost like a goose, and at others uttering a loud, hollow, and guttural grunt.

Fish is the principal food of the Great Heron, and for this purpose, like an experienced angler, he often waits for that condition of the tide, which best suits his experience and instinct. At such times, they are seen slowly sailing out from their inland breeding haunts, during the most silent and cool period of the summer's day, selecting usually, such shallow inlets as the ebbing tide leaves bare, or accessible to his watchful and patient mode of prowling; here, wading to the knees, he stands motionless amidst the timorous fry, till some victim coming within the compass of his wily range, is as instantly seized by the powerful bill of the Heron, as if it were the balanced poniard of the assassin, or the unerring pounce of the Osprey. If large, the fish is beaten to death, and commonly swallowed with the head descending, as if to avoid any obstacle arising from the reversion of the fins or any hard external processes. On land, our Heron has also his fare, as he is no less a successful angler than a mouser, and renders an important service to the farmer, in the destruction he makes among most of the reptiles and meadow shrews. Grasshoppers, other large insects, and particularly dragon flies, he is very expert at striking, and occasionally feeds upon the seeds of the pond lilies, contiguous to his usual haunts. Our species, in all probability, as well as the European Heron, at times, also preys upon young birds, which may be accidentally straggling near their solitary retreats. The foreign kind has been known to swallow young snipes, and other birds, when they happen to come conveniently within his reach.

The Heron, though sedate in his movements, flies out with peculiar ease, often ascending high and proceeding far

in his annual migrations. When he leaves the coast, and traces on wing the meanders of the creek or river, he is believed to prognosticate rain; and when he proceeds downwards, dry weather. From his timorous vigilance and wildness it is very difficult to approach him with a gun, and unheeded as a depredator on the scaly fry, he is never sought but as an object of food, and for this purpose the young are generally preferred.

The present is very nearly related to the common Heron of Europe, which appears to be much more gregarious at their breeding places than ours, for Pennant mentions having seen as many as eighty nests on one tree; and Montague saw a heronry, on a small island, in a lake, in the north of Scotland, whereon there was only one scrubby oak tree, which being insufficient to contain all the nests, many, sooner than abandon the favorite situation, were placed on the ground. The decline in the amusement of hawking has now occasioned but little attention to the preservation of heronries, so that nine or ten of these nurseries are now nearly all that are known to exist, at present, in Great Britain. Not to know a Hawk from a *Heronshow*, (the former name for a Heron) was an old adage, which arose when the diversion of Heron-hawking was in high fashion; and it has since been corrupted into the absurd vulgar proverb, "not to know a hawk from a handsaw!" As the rooks are very tenacious of their eyries, and piratical to all their feathered neighbors, it might be expected that they would at times prove bad and encroaching neighbors to the quiet Herons, and I have been credibly informed by a friend*, that at Mr. Wilson's, at Dallam Tower, near Milthorp, in Westmorland, a battle took place betwixt the Rooks and Herons for the possession of certain trees and old nests, which was continued

* Mr. King, of Wigglesworth, Yorkshire.

for five days in succession, with various success, and loss of life on both sides, when, I believe, they at length came to the sage conclusion that their betters had at times acceded to, after an equally fruitless contest; namely, to leave things *statu quo ante bellum.*

The European Heron appears to give a preference to fresh-water fish, and for the purpose of taking his prey, gently wades into the water where they abound, and standing on one leg up to the knee, with his head drawn in, reclined upon his breast, he quietly watches the approach of his prey. It has been remarked by many, that the fish generally swarm around them, so as to afford an ample supply without much exertion; and Bechstein remarks, after repeated observations, that the source of this attraction to the Heron is merely the excrement of the bird, which the fish, according to experiment, devour with avidity. Their time of fishing, like that of our own species, is usually before or after sunset. Though there is no ground for believing that the Heron acquires a macilent constitution by privation, it is certain, that in Europe, from a scarcity of food, it becomes extremely lean. They are known frequently to feed by moonlight, at which time they become tolerably fat, being then unmolested, and it is observed that the fish at this time come into the shoaler waters.

The Great Heron is about 4 feet 4 inches long; the alar extent 6 feet. The forehead and middle of the crown white, passing over the eye; sides of the crown and hindhead, bluish black and crested, the 2 long tapering black feathers being 6 inches long. Chin, cheeks, and sides of the head, white, for several inches; throat white, thickly streaked with double rows of black stripes; the rest of the neck brownish ash, from the lower part of which proceed a great number of long, narrow, pointed white feathers, that spread over the breast, and extend nearly to the thighs; under these long plumes, the breast and middle of the belly, are deep blackish slate, the latter streaked with white. Sides blue ash; vent white. Thighs and

ridges of the wings of a dark purplish rust color. Whole upper parts of the wings, tail, and body, light ash; the latter ornamented with a profusion of long, narrow, white, tapering feathers, originating on the shoulders or upper part of the back, and falling gracefully over the wings. Primaries very dark slate color. Naked thighs brownish yellow. Legs, brownish black, tinged with yellow, and netted with seams of whitish. Bill 8 inches long, and $1\frac{1}{4}$ in width; yellow, in some blackish, on the ridge; very sharp at the point and edges, and slightly serrated near the extremity. Space around the eye, from the nostril, of a light purplish blue. Iris orange.

GREAT WHITE HERON.

(*Ardea egretta*, Gmel. Wilson, vii. p. 106, pl. 61, fig. 4. *A. alba*, Bonap. *nec.* Lin. Bonap. Am. Orn. iv. p. 97. *A. leuce*, Temm. Phil. Museum, No. 3754. Young, 3755.)

Sp. Charact. — Without crest; snowy white; bill bright yellow; legs black, very long and stout, naked for four inches above the tarsus. — *Adult*, the back furnished with long flowing stout plumes, extending beyond the tail. — *Young* and *moulting* birds without the dorsal train.

This tall and elegant Heron is, in America, chiefly confined to the warmer and more temperate regions. From Guiana, and even far beyond the equator in South America,* it is seen to reside as far to the north as the state of New York. In the old continent, the very nearly allied *A. alba* is met with on the borders of the Caspian and Black seas, on the shores of the Irtish, and the lakes of Tartary, even as far as the 53d parallel; and a straggler is now and then met with in Great Britain. Towards the close of February, our species is seen to arrive in Georgia from its warmer hybernal resorts. At all times it appears to have a predi-

* According to the Prince of Musignano, this species is mentioned by d'Azara, and he has himself received it from Surinam.

lection for swamps, rice fields, and the low marshy shores of rivers and lagoons, where from its size and color it becomes conspicuous at a distance, yet from its vigilance and timidity rarely allows of an approach within gun-shot. It is known to breed in several of the great cedar swamps, in the lower maritime parts of New Jersey. Like most of their tribe, they associate in numbers at their eyries, and the structure and materials of the nest is entirely similar to those of the Snowy Heron. The eggs about 4, are of a pale blue color. In July and August, the young are seen abroad in the neighboring meadows and marshes, in flocks of twenty or thirty together. They are particularly frequent in the large and deep tide ditches in the vicinity of Philadelphia. Their food, as usual, consists of frogs, small fish, lizards, mice, and moles, insects, small water snakes, and, at times, the seeds of the pond lilies.

This species is 3 feet 6 inches from the tip of the bill to the end of the tail; and 5 feet in alar extent. The train, which extends 7 or 8 inches beyond the tail, is composed of a great number of long, thick, tapering shafts, arising from the lower part of the shoulders, and thinly furnished on each side with fine flowing, hair-like threads, several inches in length, covering the lower part of the back, and falling gracefully over the tail, which it entirely conceals. The whole plumage pure white, except the train, which is slightly tinged with yellow. The bill orange, tipt with black. Irids paler. The span of the foot upwards of 6 inches, with the inner edge of the middle claw pectinated.

PEALE'S EGRET HERON.

(*Ardea Pealii*, Bonap. Am. Orn. iv. p. 96. pl. 26. fig. 1.)

Sp. Charact. — Crested; snowy white; bill flesh colored, the point and legs, black; toes yellow beneath; tarsus more than 5 inches long. — *Adult*, with the crest and neck-fringe large, composed of compact and pointed feathers; the back provided with long, straight, filiform plumes, extending beyond the tail. — The *young* smaller, and destitute of these ornaments.

This species, so nearly allied to the European Egret, was discovered in East Florida, by Mr. Titian Peale, and probably inhabits still farther south, on the American continent.

This species is about 26 inches long. The bill 5, flesh color, for nearly three inches, from the base, then black to the point. The lora and naked parts of the face are of the same flesh-color, but paler. Plumage as in all the Egrets, snowy white. The crest large and dense. A bunch of these fine subulate feathers hangs down also from the front part of the neck. The long flowing plumes of the back are filiform, rather than silky, being by no means delicate, extending much beyond the tail, with the rays of their barbs straight and rather stiff, never curled, or divaricate, as in the *A. candidissima*. Tarsus 6 inches long.

SNOWY HERON.

(*Ardea candidissima*, Gmel. Wilson. vii. p. 120. pl. 62. fig. 4. [adult.] Phil. Museum. No. 3785.)

Sp. Charact. — Crested; snowy white; bill, and legs black; toes yellow; tarsus less than 4 inches long.—*Adult* with a large crest and neck-fringe, of loose flowing feathers; the back ornamented with long, silky, recurved plumes, scarcely extending beyond the tail. The *young*, but slightly crested, destitute of the dorsal train; and, with the legs yellowish green, stained with black.

This elegant Heron, so nearly related to the little Egret of Europe, inhabits the marshes and swamps of the sea-

coast, nearly from the Isthmus of Darien to the estuary of the St. Lawrence, generally omitting, however, the maritime range of the central parts of New England.* It arrives in the United States from the south early in April, and parties, passing inland, at length proceed up the valley of the Mississippi, and even ascend the borders of the Arkansa, thus pursuing an extensive inland route to their final destination in the wilds of Canada. After raising their brood, they depart from the middle states, towards their hybernal destination in the south, in the course of the month of October.

Like most of the summer visiters of this family, the Snowy Heron confines its residence to the salt marshes, where its brilliant whiteness renders it a conspicuous object at a distance. Its food, as usual, consists of small crabs, worms, snails, frogs, and lizards, to which fare it also adds at times the seeds of the pond lilies and other aquatic plants. About the middle of May they commence to breed, and Wilson describes one of these heronries situated in a sequestered clump of red cedars, at Summer's Beach, on the coast of Cape May. The spot chosen, with the usual sagacity of the tribe, was separated on the land side by a fresh water pond, and sheltered from the view of the Atlantic by ranges of sand hills. The cedars, though low, were so densely crowded together as scarcely to permit a passage through them. Some of the trees contained three or four nests in each, constructed wholly of sticks. The eggs, about 3 in number, were of a pale greenish blue color, and measured one inch and three quarters in length. On approaching the premises, the birds silently rose in great numbers, and alighting on the tops of the neighboring trees, they appeared to watch the result of the intruding visit in silent anxiety.

* I have seen a specimen of an individual which came on board a vesssel nearly off Nantucket, probably migrating directly to the south, outside the land. Though extremely lean and emaciated, it refused all food.

Assembled with them were numbers of the Night Herons, and two or three of the purple-headed species. Great quantities of egg-shells lay scattered under the trees, occasioned by the depredations of the crows, who were hovering in the vicinity. Wherever they happen to wander through the marshes, or along the borders of the rivers and inlets, they regularly return in the evening to their favorite roost in the cedars of the beach.

The young, of both this and the preceding species, are generally fat, and esteemed by some as palatable food.

The length of the Snowy Heron is about 2 feet 1 inch; the alar extent 3 feet 2 inches. The bill is black, and 4 and a quarter inches long. The space from the nostril to the eye bright yellow. Iris orange. The head is largely crested with loose unwebbed feathers, nearly 4 inches in length; another tuft of the same covers the breast. Shafts of the great dorsal train feathers 6 or 7 inches long, very elastic, tapering to the extremities, and thinly set with long, slender bending threads or fibres easily agitated by the slightest motion of the air; these shafts curl upwards at the ends. Legs black; feet yellow, claws black, the middle one pectinated.

LOUISIANA HERON.

(*Ardea ludoviciana*, Wilson, (not of Latham,) viii. p. 13. pl. 64. fig. 1. [adult.] Phil. Museum, No. 3750.)

Sp. Charact. — Crested; slate-colored; back, rump, and beneath, white; neck feathers purplish; a dorsal train of long capillary, purplish plumes. — *Young* without the ornamental feathers.

This rare species of Heron is confined to the warmer parts of the Union, from whence it migrates, at the approach of winter, probably to the tropical parts of America. It is occasionally found in the river marshes of South Carolina, and is not unfrequent along the inundated borders of the Mississippi, below New Orleans, where it is said to breed, constructing its nest in trees. Its habits agree very nearly

with those of the Blue Heron. It is very quick in its movements, and alert in the capture of its prey, which consists of fish, frogs, lizards, and various aquatic insects.

Length of the species from the bill to the end of the tail about 23 inches. Bill 5 inches long, very sharp, yellowish-green at base, and black towards the point. Irids yellow. Chin and throat white, dotted with brown and some greyish blue. The neck light vinous purple. Crest formed of a number of long narrow purple feathers, beneath which arise 7 or 8 very long white and pendent ones. Upper part of the back and wings light slate color; lower part of the back and rump beneath the dorsal train white. The train of a soiled purplish brown at the base, becoming cream color towards the extremities. Tail slate colored, even; legs, and naked thighs greenish yellow; the middle claw pectinated; below pure white.

Subgenus. Botaurus. *(Bonap.)*

In these Herons the BILL is scarcely longer than the head, much compressed and higher than broad; the upper mandible is likewise sensibly curved. Legs comparatively short; a small naked space above the tibiæ. The *neck* rather short, and densely covered with long loose feathers, capable of voluntary erection. — Chiefly nocturnal. Living as usual with the preceding in retired marshes and dark swamps; feeding more on reptiles and insects than on fish.

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† *Adult, during the nuptial season, with a few, long, and narrow, tapering occipital feathers.*

WHITE CROWNED HERON.

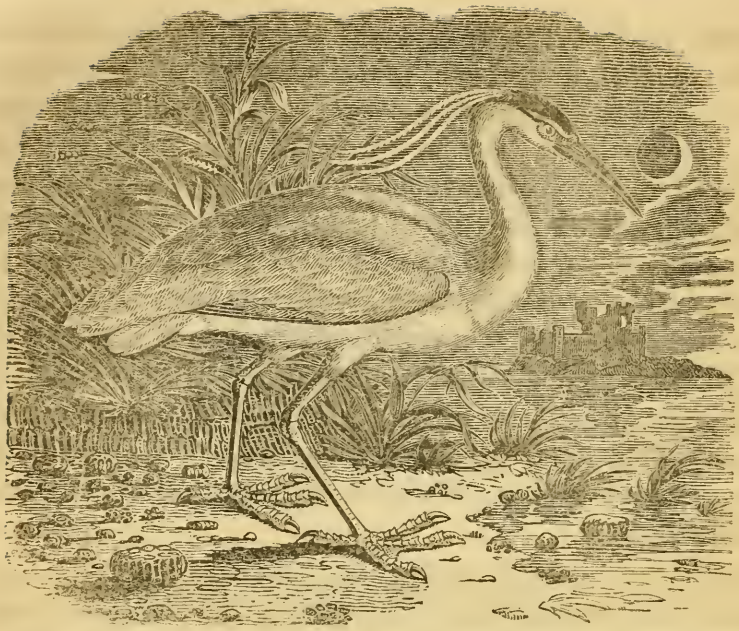
(*Ardea violacea*, Lin. Wilson, viii. p. 26. pl. 65. fig. 1. [adult.] Phil. Museum, 3738.)

Sp. Charact. — Crested; ash color, paler below; upper parts streaked with black; dorsal train of long, loosely webbed tapering feathers; the crown and spot on each cheek, white; two occipital feathers.

This species, erroneously called the Yellow Crowned

Heron, by Catesby, inhabits the maritime parts of South Carolina, Georgia and Louisiana, during the summer season. Individuals are also seen as far north as Virginia, and even occasionally in the vicinity of Philadelphia. They are also resident in the Bahama Islands, where they breed, in great numbers, and the young are sought after as a delicate kind of game. In the United States, the species is not numerous; and after the manner of the Night Heron, they repose during the day in low swampy woods, and sally out to feed only at twilight. They breed in companies, making their nests of sticks, in the branches of low trees, and lay four pale blue eggs. Their food, as usual, consists of fish fry, lizards and crabs, of which last they are very fond and make great destruction.

This species is about 22 inches in length; alar extent 34. Bill black, about 4 inches long. Lores pale green. Irids orange red. Head, and part of the neck black, marked on each cheek with an oblong spot of white. Crested crown and upper part of the head white; the 2 long occipital feathers white, beneath these are a few others of a blackish color. Upper parts a dark ash, each feather centred with black and edged with white. Primaries dusky, edged with white. Long dorsal train feathers ash, streaked broadly down the centre with black, extending 4 or more inches beyond the wings. Legs and feet yellow; middle claw pectinated.



QUA BIRD, OR AMERICAN NIGHT HERON.

(*Ardea *discors, A. nycticorax,* WILSON, vii. p. 101. pl. 61. fig. 2. [adult,] and fig. 3. [young.] Phil. Museum, No. 3728. and young, 3729.)

SP. CHARACT. — Whitish; crown greenish black; upper part of the back with a faint tinge of dusky green; the 3 occipital feathers pure white. Length of the bird 28 inches. — *Autumnal* bird without the occipital feathers — The *Young*, as soon as feathered, brown, streaked with rufous white, beneath dark grey with whitish stripes; wing and tail feathers dark grey, the former with a spot of white at the tips; no occipital feathers.

THE Great Night Heron of America, extends its migrations probably to the northern and eastern extremities of the United States, but is wholly unknown in the high boreal regions of the continent. In the winter it proceeds as far south as the tropics, having been seen in the marshes of Cayenne, and their breeding stations are known to extend from New Orleans to Massachusetts. They arrive in Penn-

sylvania early in the month of April, and soon take possession of their ancient nurseries, which are usually, (in the middle and southern states,) the most solitary and deeply shaded part of a cedar swamp, or some inundated and almost inaccessible grove of swamp oaks. In these places, or some contiguous part of the forest, near a pond or stream, the timorous and watchful flock pass away the day, until the commencement of twilight, when the calls of hunger, and the coolness of evening arouse the dosing throng into life and activity. At this time, high in the air, the parent birds are seen sallying forth towards the neighboring marshes and strand of the sea, in quest of food, for themselves and their young; as they thus proceed in a marshalled rank, at intervals they utter a sort of recognition call, like the guttural sound of the syllable *'kwàh*, uttered in so hollow and sepulchral a tone, as almost to resemble the retchings of a vomiting person. These venerable eyries of the Kwah Birds, have been occupied from the remotest period of time, by about eighty to a hundred pairs. When their ancient trees were levelled by the axe, they have been known to remove merely to some other quarter of the same swamp, and it is only when they have been long teased and plundered that they are ever known to abandon their ancient stations. Their greatest natural enemy is the Crow, and according to the relation of Wilson, one of these heronries, near Thompson's Point, on the banks of the Delaware, was at length entirely abandoned, through the persecution of these sable enemies. Several breeding haunts of the Kwah Birds occur among the red cedar groves, on the sea beach of Cape May; in these places they also admit the association of the Little Egret, the Green Bittern, and the Blue Heron. In a very secluded and marshy island, in Fresh Pond, near Boston, there likewise exists one of these ancient heronries; and though the birds have been frequently robbed of their eggs, in great

numbers, by mischievous boys, they still lay again immediately after, and usually succeed in raising a sufficient brood. The nests, always in trees, are composed of twigs, slightly interlaced, more shallow and slovenly than those of the Crow, and though often one, sometimes as many as two or three nests are built in the same tree. The eggs about 4, are as large as those of the common hen, and of a pale greenish blue color. The marsh is usually whitened by the excrements of these birds; and the fragments of broken egg shells, old nests, and small fish, which they have dropped while feeding their young, give a characteristic picture of the slovenly, indolent, and voracious character of the occupants of these eyries.

On entering these dark and secluded retreats of the Night Heron, the ear is assailed by the confused and choking noise uttered by the old and young, which, however, instantly ceases the moment the intruder is observed, and the whole throng, lately so clamorous, rise into the air in silence, and fly to the tops of the trees in some other part of the wood, while parties of the old birds, of from eight to ten, make occasional reconnoitering circuits over the spot, as if to observe, what may be going on in their surprised domicil.

However deficient these nocturnal birds may be in vision by day, their faculty of hearing is so acute, that it is almost impossible, with every precaution, to penetrate near their residence without being discovered. As soon as the young are able, and long before they are capable of flying, they climb to the highest part of the trees near their nests, as if to solicit the attention and watch the return and protection of their officious parents; and yet, with every precaution, the young fall victims to the prowling hawks, who hovering round, make an occasional sweep among their timorous ranks.

About the middle of October, the Qua Birds begin to retire from this part of Massachusetts, towards their southern

winter quarters, though a few of the young birds still linger occasionally to the 29th or 30th of that month. The food of this species consists chiefly of small fish, which it collects in the twilight, or towards night, and in the wide gullet, which commences at the immediate base of the bill, they probably collect a supply for the use of their young.

In the month of October, I obtained two specimens of the young Night Heron, in their second plumage ; these were so extremely fat, that the stomach was quite buried in cakes of it like tallow. Their food had been *Ulva latissima*, small fish, grasshoppers, and a few coleopterous insects ; so that at this cool season of the year, these birds had ventured out to hunt their fare through the marsh by day, as well as evening. In the stomach of one of these birds, towards its upper orifice, were parasitic worms, like tænia. About the time of their departure, the young, in their plumbeous dress, associate together early in the morning, and proceed in flocks, either wholly by themselves, or merely conducted by one or two old birds in a company.

The American Night Heron is 28 inches or upwards in length ; and the alar extent is 4 feet. Bill black, $4\frac{1}{4}$ inches from the rictus. Lores pale greenish-yellow ; (bluish white, *Wilson.*) Eyelids large and bare, of a deep purplish blue. Iris blood red. Crested crown and hind-head, deep dark blue, with a green reflection. Front and line over the eye, white. Occipital feathers 3, sometimes 4, pure white, and between 8 and 9 inches long ; these are so closely incumbent, as when at rest, to appear only like a single feather. Lower parts white, stained with yellowish cream color. Back and scapulars tinged with a shade of the dark green of the head. Rump, tail-coverts, wings and tail, pale ash. Legs yellowish-green, (yellow cream color, *Wilson.*) Inside of the middle claw serrated.—The *young* bird measures about 21 inches in length, and is above of a deep brown, streaked with rufous white, the spots of white on the back and wings are triangular. Quills dusky, marked on their tips with a spot of white. Belly with the feathers pale dusky, streaked down their centres with white. Iris, orange. Legs and feet, light green. In the *progressive change* which the *young* undergo before their departure, some are,

at length, seen dusky above, with a pale, rufous white stripe in the centre of each feather. The wings and tail put on the bluish-grey tint of the adult, and the coverts are all tipt with a pencil shaped spot of white. Below also the plumage becomes a shade paler. The iris is orange, and the pupil very large. These were killed in October.

I have ventured to consider the Kwa Bird as a different species from the Night Heron of Europe, principally from the striking disparity in the size of the adult. I have not at this time, had the means of making an accurate comparison, though I have seen the European Night Heron living, in the aviary of Lord Stanley, but believe, from the geographical range of the species in both continents, they must be distinct, as neither migrate into the high boreal regions. The transatlantic species, is said to inhabit the borders of the Don, where it builds in trees, and is also met with at Astrachan, in summer. In a forest, now demolished, at Sevenhuys, near Leyden, many formerly bred, in company with the Spoonbills, and other birds of like habits. They arrive in Silesia in the autumn, and migrate with the Storks in the spring, they are inhabitants of the borders of lakes in Tuscany; are found at Aleppo, and there are figures of the species in Chinese drawings. I am happy also to find, that my friend Mr. Audubon, agrees with me in the opinion of the distinction of the American species from that of Europe.

BLUE HERON.

(*Ardea cærulea*, Lin. Wilson, vii. p. 117. pl. 62. fig. 3. [adult.] *A. cærulescens*, Turton. *A. cyanopus*, Latham, Gmel. [the young.] Phil. Museum, No. 3782.)

Sp. Charact. — Crested; bluish-slate; feathers of the back and breast, slender and elongated; head and neck purplish-brown; 3 occipital feathers. The *young* without the crest, and with the head and neck of the same color with the body.

The Blue Heron may be considered almost a restricted native of the warmer climates of the United States, from whence it migrates at the approach of winter, into the tropical parts of the continent, being found in Cayenne, Mexico, and the island of Jamaica. The muddy shores of the Mississippi, from Natchez downwards, are their favorite resort.

In the course of the spring, however, they migrate, occasionally to the confines of New England, restricting their visits, like many other of the tender species, to the confines of the ocean, and its adjoining marshes, where their proper food, of reptiles, worms, and insect larvæ abound. They also often visit the fresh water bogs, in the vicinity of their eyries; and move about actively, sometimes making a run at their prey. Like the Snowy Heron, with which it sometimes associates, it is also, when the occasion requires, very silent, intent and watchful. These nocturnal and indolent birds, appear tacitly to associate and breed often in the same swamps, leading towards each other, no doubt, a very harmless and independent life. Patient and timorous, though voracious in their appetites, their defence consists in seclusion, and with an appropriate instinct, they seek out the wildest and most insulated retreats in nature. The undrainable morass grown up with a gigantic and gloomy forest, imperviously filled with tangled shrubs and rank herbage, abounding with disgusting reptiles, sheltering wild beasts, and denying a foot hold to the hunter, are among the chosen resorts of the sagacious Herons, whose uncouth manners, raucous voice, rank flesh, and gluttonous appetite, allow them to pass quietly through the world, as objects at once contemptible and useless; yet the part which they perform in the scale of existence, in the destruction they make amongst reptiles and insects, affords no inconsiderable benefit to man.

A few of the Blue Herons, for common safety, breed among the Night Herons, the Snowy species, and the Green Bittern, among the cedars, (or Virginian Junipers,) on the sea beach of Cape May. Their nests, placed in the tops of the trees, were composed of small twigs, and contained mostly 5 eggs of a light blue color, but of a somewhat deeper tint than those of the Night Heron.

This species is about 23 inches in length, and 3 feet in alar extent. Bill, black; lores, light purplish-blue; iris, grey; head and neck of a deep purplish brown. Long occipital feathers, dark brown, and not very distinct or separate from the rest. General plumage, of a deep slate color. The back covered with long, flat and narrow feathers, some of them near 10 inches long, and extending 4 inches beyond the tail; the breast also ornamented with similar feathers. Legs blackish green.

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† † *No long occipital feathers in the following species.*

AMERICAN BITTERN.

(*Ardea lentiginosa*, Montague, Suppl. Orn. Dict. (ann. 1813.) *A. minor*, Wilson, viii. p. 35. pl. 65. fig. 3. (ann. 1814.) Phil. Museum, No. 3727.)

Sp. Charact. — Yellowish ferruginous, mottled and sprinkled with deep brown; throat white, streaked with brownish; the crown, a wide space on each side the neck, and primaries plain black. — *Young*, with similar colors, but less decided.

The Bittern of America, though no where numerous from its retiring habits, is found in almost every part of the continent, where there exist extensive marshes, either maritime or inland, up to the 58th parallel of northern latitude,* where they are frequent, in the morasses and willow thickets of the interior, throughout the fur countries. From the inclement regions they retire in the winter, while in other parts they are permanently resident. They are said to revisit Severn river, at Hudson's Bay, about the beginning of June, where they make their nests in the swamps among the sedge, and lay 4 cinereous green eggs. They breed also in several parts of the state of Massachusetts, young birds being met with in the marshes of Fresh Pond, and other places in the vicinity of Boston, about the middle of summer.

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* Richardson's North. Zool. ii. p. 374.

During the day, the Night Hen, as it is here called, remains hid in the reeds and sedge, and rarely comes out till the approach of night. When disturbed in its retreat, it flies off with a hollow *'kwa*, or *kowk*, *kowk*, and sometimes gives a loud squeak of alarm; at this time, as it flies heavily, and at no great height, it is easily shot down; they are also sometimes obtained by laying wait for them as they sally out in the evening, towards the salt marshes, in a particular direction, in quest of their usual supply of food.

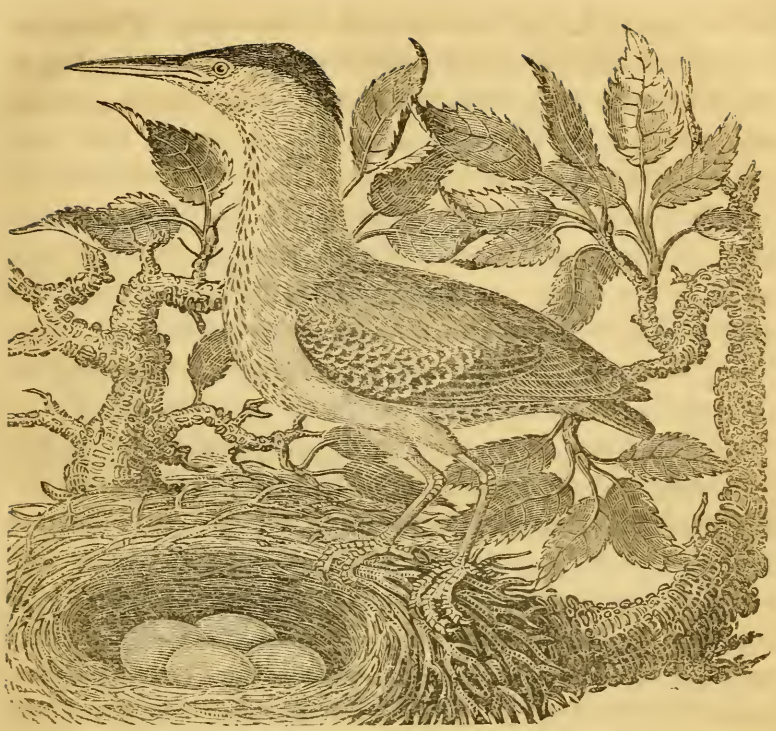
In the breeding season, and throughout a great part of the summer, we often hear the loud booming note of this bird from the marshes of Fresh Pond, morning and evening, and sometimes even during the day. Instead of the *bump*, or *boomp*, however, of the true Bittern, their call is something like the uncouth syllables of *'pump-ăŭ-gàk*, but uttered in the same low, bellowing tone.

The cry of the European Bittern, so similar to that of our own species, is thus elegantly described by Goldsmith, in his Animated Nature. "Those who have walked in a summer's evening by the sedgy sides of unfrequented rivers, must remember a variety of notes from different water fowl; the loud scream of the wild goose, the croaking of the mallard, the whining of the lapwing, and the tremulous neighing of the jack-snipe. But of all these sounds, there is none so dismally hollow as the booming of the Bittern. It is impossible for words to give those who have not heard this evening call, an adequate idea of its solemnity. It is like the interrupted bellowing of a bull, but hollower and louder, and is heard at a mile's distance, as if issuing from some formidable being that resided at the bottom of the waters. This is the Bittern, whose windpipe is fitted to produce the sound for which it is remarkable; the lower part of it, dividing into the lungs, being supplied with a thin loose membrane, that can be filled with

a large body of air, and exploded at pleasure. These bellowings are chiefly heard from the beginning of spring to the end of autumn; and are the usual calls during the pairing season."

The American bird, no less than the true Bittern, is considered by many as excellent food.

Total length of the American Bittern 31 inches, (only 27 according to Wilson.) Bill straight, tapering, acute, and finely serrated towards the point, dark brown, on the sides and beneath, yellow. The crown dusky reddish-brown. Neck pale yellowish-brown; minutely dotted with blackish-brown; a broad blackish stripe on the side of the neck, from behind the ears. *Dorsal plumage*, dark umber brown, barred and spotted with chestnut and yellowish-brown; long feathers on the shoulders broadly edged with brownish yellow. Spurious wing, primaries, their coverts, and the bases of the secondaries, greyish-black; their tips, lesser quills, and tail brownish-orange, dotted with black. Chin and part of the throat whitish; rest of the *under plumage*, ochre-yellow, unspotted on the vent, under tail coverts, and insides of the thighs; marked, however, on the neck, breast and belly with central stripes of mottled clove-brown; flanks dusky, with light irregular bars. Legs greenish-yellow. 2d and 3d quills the longest. Tail rounded, of 10 feathers. Middle claw pectinated.



GREEN HERON.

(*Ardea virescens*, Lin. Wilson, vii. p. 97. pl. 61. fig. 1. Phil. Museum, No. 3797.)

Sp. Charact. — Crested; dark glossy green; neck and breast dark vinaceous red; a line from the chin down the throat, white, with dusky streaks. — *Adult* having the back ornamented with long tapering feathers. — The *young* much less brilliant, and destitute of the dorsal train.

The Green Bittern, known in many parts much better by a contemptible and disgusting name, is the most common and familiar species of the genus in the United States. Early in April, or as soon as the marshes are so far thawed as to afford them the means of subsistence, they arrive in Pennsylvania, and soon after are seen in New England, but

are unknown in the remote and colder parts of Canada. Many winter in the swamps of the Southern States, though others retire in all probability to the warmer regions of the continent, as they are observed at that season in the large islands of Hayti and Jamaica.

In common with other species, whose habits are principally nocturnal, the Green Bittern seeks out the gloomy retreat of the woody swamp, the undrainable bog, and the sedgy marsh. He is also a common hermit, on the inundated, dark willow and alder shaded banks of sluggish streams, and brushy ponds, where he not only often associates with the kindred Kwa Birds and Great Herons, but frequently with the more petulant herd of chattering Blackbirds. When surprised or alarmed, he rises in a hurried manner, uttering a hollow guttural scream, and a *'k'w*, *'k'w*, *'k'w*, but does not fly far, being very sedentary, and soon alighting on some stump or tree, looks round with an outstretched neck, and balancing himself for further retreat, frequently jets his tail. He sometimes flies high, with his neck reclining, and his legs extended, flapping his wings, and proceeding with considerable expedition. He is also the least shy, of all our species, as well as the most numerous and widely dispersed, being seen far inland, even on the banks of the Missouri, nearly to the river Platte, and frequent near all the maritime marshes, and near ponds, and streams in general. He is also particularly attracted by artificial ponds for fish, not refraining even to visit gardens and domestic premises, which any prospect of fare may offer. He is, at the same time, perhaps as much in quest of the natural enemy of the fish, the frog, as of the legitimate tenants of the pond. These bold and intrusive visits are commonly made early in the morning, or towards twilight, and he not unfrequently, when pressed by hunger, or after ill success, turns out to hunt his fare by day, as well as dusk,

and, at such times, collects various larvæ, particularly those of the dragon fly, with grasshoppers, and different kinds of insects. At other times he preys upon small fish, crabs and frogs, for which he often lies patiently in wait till they reappear from their hiding places in the water or mud, and on being transfixed and caught, which is effected with great dexterity, they are commonly beaten to death, if large, and afterwards swallowed at leisure.

The Small Bittern, in the Middle States, usually begins to build about the 15th of April, sometimes in solitary pairs, in dark and swampy woods, at other times in companies, and, as already remarked, by a similarity of taste and habit, they frequently join the heronries of the larger species, as a sort of humble dependants, and watchful defenders of the general eyry. The nest is fixed in the branches of trees, occasionally concealed also in the summit of a hollow trunk, made wholly of twigs, lined only with finer ones, and is of considerable size, but slovenly put together. The eggs are 4, oblong, and of a pale blue color. The young, as usual, slowly acquire the full use of their limbs, and remain patiently in the nest until able to fly. Late in the autumn, they begin to retire from the colder parts of the Union, seceding gradually, and proceeding usually by single families together.

This species is about 18 inches long; and 25 in alar extent. Bill black, nearly straight, lighter below, and yellow at the base. Dorsal train hoary green, shafted with white on a dark green ground. Wings and tail, dark glossy green, tipt and bordered with yellowish-white. Legs and feet yellow, tinged with green. Belly ashy-brown. Crested head, dark glossy green. Irids orange.

Subgenus.—Ardeola. *(Bonap.)*

In these, the smallest birds of the family, the legs are comparatively short, the thighs feathered to the knees, and the membrane uniting the toes merely rudimental. The sexes somewhat different. The plumage of the *young* distinct from both. Their habits, like the Bitterns, are chiefly nocturnal. They nest and dwell in marshy grounds, and hiding, and running out far in their coverts rather than take to wing, they are but seldom seen abroad; food as usual.

LEAST BITTERN.

(Ardea exilis, Gmel. Wilson, viii. p. 37. pl. 65. fig. 4. Phil. Museum, No. 3814.)

Sp. Charact.—Chestnut, beneath whitish; neck above rufous; sides cream-colored; crown, primaries, tail, and tuft each side of the breast, dusky. Length about 12 inches.

This smallest of the Bitterns, and closely related to the diminutive species of Europe *(Ardea minuta,)* inhabits the United States in summer, probably to the extremity of the state of New Hampshire, but are in every place of rare occurrence, from their habit of selecting the remotest parts of extensive marshes, from whence they seldom ever issue, till the period of migration, which is no doubt nocturnal, in accordance with their usual habits. They are seen in Jamaica, also, and several other of the West India islands, but whether the birds of the United States extend their migrations within the tropics, is as yet unknown, though not improbable, as they pass on to the north to breed in the spring, as soon as the marshes are sufficiently thawed for their reception. They are rarely ever seen in salt meadows, and live principally upon the small fish of fresh waters, or inlets, and upon aquatic insects. Towards autumn, they are occa-

sionally started in the interior of the great marshes of Fresh Pond, near Boston, where they probably breed, in the sedgy tussocks; though we have occasionally seen one or two in the society of the Kwa Birds, in the dark woody swamp of their breeding place. We are not conscious that they ever utter any very audible note, at least, they are perfectly silent when surprised in their retreat. The eggs of the European species are described as being white. According to Wilson, a few of these birds also breed in the low marshy meadows below Philadelphia.

The Least Bittern is about 12 inches in length, and 16 in alar extent. Bill, nearly straight, yellow, ridged with black, $2\frac{1}{4}$ inches long. Lores, pale yellow. Irids, bright yellow. Crested head, back, scapulars and tail, deep dusky, reflecting slight tints of green. Throat white, tinged in places with buff. Hind part of the neck dark chestnut bay. Sides of the neck, cheeks, and line over the eye, brown buff. Greater wing-coverts chestnut, with a spot of the same at the bend of the wing. Primaries, dusky. Breast white, with an ochreous tint, beneath which are a number of blackish feathers. Belly and vent white. Legs greenish on the shins, the hind part and feet yellow; thighs almost wholly feathered; middle claw pectinated; feet large. Sexes nearly alike in plumage. The *young* are brown on the crown and back.

ARAMUS. (*Vieillot, Temm.* Scolopax, *Lin.*)

With the bill much longer than the head, cleft beneath the eyes, straight, compressed and somewhat curved at tip; upper mandible slightly furrowed; the lower turgid towards the middle, acute, and angular beneath. Nostrils wide, linear, pervious, situated above the base of the bill. *Head* wholly feathered; the lores naked. *Feet* long, the naked space above the tarsus extensive; toes entirely divided; hind toe half the length of the inner, bearing on the ground with several joints; nails long and slender, the posterior longest. *Wings* moderate, the first primary rather short and curved; the 3d longest. Tail short, of 12 feathers.

Sexes nearly similar in plumage, and scarcely distinguishable from the young. The moult annual.

These are shy and solitary birds, dwelling in arid and desert plains, where they usually lie concealed, but fly rapidly to a great elevation as soon as they are aware of being discovered. They alight on trees, and walk with agility, keeping the tail in motion when alarmed. They nest in the grass, have a loud and shrill voice, and subsist principally upon frogs and insects. The genus, consisting of but one well known species, is peculiar to the warmer parts of America, and is almost intermediate in its habits and structure with *Ardea* and *Numenius*, (the Herons and Curlews.) It is also nearly allied to the Rails, with which indeed some have arranged it.

SCOLOPACEOUS COURLAN.

(*Aramus scolopaceus*, Vieill. Bonap. Am. Orn. iv. p. 111. pl. 26. fig. 2. *Ardea scolopacea*, Gmel. Lath. Orn. ii. p. 701. sp. 89.)

Sp. Charact. — Brown, glossed with green; feathers longitudinally marked with white in the middle; rump, primaries, and tail feathers, without spots.

This singular bird principally inhabits Cayenne, Brazil and Paraguay, where it is rather common; it is numerous in the island of Cuba, and other warm parts of America. In the United States, Florida appears to be its most natural residence, and a few instances have occurred of its visiting the Middle States. The Courlan leads a solitary life, or only associates by pairs. By night as well as day they are heard crying out in a loud and sonorous voice *carau!* and are well entitled to the name of the supposed '*crying-bird*' of Bartram. Mollusca, frogs, and other aquatic animals are its ordinary food. It is very shy, carefully hiding itself, but when aware of being discovered, it starts rapidly to a great elevation, and its flight is long continued. They also walk with great agility, but never willingly wade into the water; they alight on the summits of trees, and build in the grass,

near stagnant water, concealing their nest with much art: the eggs are but two. The young follow their parents soon after they are hatched, and are covered with blackish down. The Courlan inhabits the low shores and swamps of the rivers and lakes in Florida, and perhaps Georgia. Like the Rail, it runs swiftly through the grass, compressing its narrow body so as to pass through a small hole, and is very difficult to catch when wounded.

The Courlan is about 2 feet long; and 3 feet 8 inches in alar extent. The bill 4¾ inches in length, yellow at base, and bluish-black at tip. Iris, brown. Legs pale lead color; tarsus 4½ inches long. The body is compressed, but fleshy; the neck cylindrical and slender; the face and lora entirely feathered. The general color of the bird is a deep chocolate brown, or sooty hue; the feathers are however, paler on their margins, and there is on each, about the middle, a broad lanceolate white spot, most conspicuous on the wing coverts. Rump, upper and lower tail coverts, outer large wing coverts, vent, all the quills and tail feathers are unspotted, and of a bright chocolate brown, with a greenish gloss, but darker and with purplish reflections on the quills and tail. Throat entirely whitish.

FLAMINGO. (Phœnicopterus.* *Lin.*)

In the birds of this genus, the BILL is large, higher than wide, light and hollow, naked at its base, the upper mandible suddenly bent downward in the middle, and curved over the lower towards the point; the lower mandible wider than the upper, the margins of both finely toothed. NOSTRILS longitudinal, narrow, pervious, situated about the middle of the bill, and covered above by an extensible membrane. *Tongue* very thick and fleshy, roughened with papillæ. *Feet*, legs very long, 3 toes before, the hinder one very short, being articulated very high upon the tarsus; feet almost entirely webbed,

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* An ancient Greek name, compounded of *φοινιξ*, the *Phœnician* or purple dye, and *πτερον*, a *wing*; and hence the Portuguese name of *Flamingo*, and the French *Flammant*, all alluding to the brilliant hue of the bird.

the web indented; *nails* short and flat. *Wings* moderate in dimensions, the 1st and 2d primaries nearly equal and longest. *Tail* short, of 16 feathers.

The neck is exceedingly long, and very slender; the female smaller and somewhat paler than the male. The young differ greatly from the adult, and change their plumage repeatedly. The moult is annual; colors red, at first white, and rose color.

The Flamingos, inhabiting solitary sea coasts in all the warmer parts of the world, associate and migrate in large flocks, forming themselves into an angular phalanx like the Wild Geese. They feed upon molluscous animals, spawn, and insects, which they are in the habit of fishing up by means of their long necks, turning their bill upside down, to take advantage of its peculiar, and otherwise awkward form; they even assist themselves often in walking, by placing the flat part of their upper mandible upon the ground in the manner of a support. They are extremely shy, and watchful; establishing sentinels to give warning of danger, by a loud trumpet-like call. They breed also in societies in inundated marshes; during the progress of incubation, raising the nest to the height of the body, by collecting the mud into a hillock with their feet, where they brood and hatch often standing in the water. The eggs are 2 or 3, white, and of an elongated form. The young run as soon as hatched. They sleep standing upon one leg, with the neck folded back upon the body, and the head reclined under the wing. They run swiftly, but never swim from choice. Their scent and hearing are also very acute. The genus consists of 4 species, one of which inhabits Europe, and another, so similar as to be mistaken for the same, is peculiar to the warmer parts of the present continent.

AMERICAN, OR RED FLAMINGO.

(*Phœnicopterus ruber*, LIN. WILSON, viii. p. 45. pl. 66. fig. 4. [adult.] and BONAP. Am. Orn. iii. [young.] Phil. Museum, No. 3545, [young of the year,] No. 3546, [of the 2d year.])

SP. CHARACT. — Red, quills black. — *Young*, grayish-white.*

THE Flamingo of America is found chiefly in the tropical regions, from whence it appears to emigrate in summer, on either side the equator; in the southern hemisphere, visiting

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* The transatlantic species is thus distinguished by Temminck.

Phœnicopterus antiquorum. Rose color; wings, red; quills, black.— *Young* whitish, with strongly marked long brownish blotches. *Le Phœnicoptere*, BUFFON, Pl. Enlum, 63, [adult.]

This species inhabits the warm regions of the old continent, migrating in summer to southern, and occasionally to central Europe, and is rare.

Brazil, Peru, Chili, and Buenos Ayres, on the shores of La Plata. It is also seen in Cayenne, (where it is known by the name of Tococo, from the usual sound of its call,) and in various islands of the West Indies. They breed in Cuba and the Bahamas, are not unfrequent at certain seasons on the coast of Florida, and sometimes solitary individuals are observed even in the Middle States, but in the Union generally, the species may be considered as rare. When seen at a distance, such is the brilliancy of their dress, and the elevation at which they stand, that they appear like a troop of soldiers, being arranged alongside of each other, in lines, while on the borders of rivers and estuaries near the sea, they assemble in search of their food, which consists chiefly of small fish, spawn, and aquatic insects. They collect their prey by plunging in the bill and part of the head; and from time to time trample with their feet, to disturb the water, and raise it from the bottom. While the rest are thus employed in seeking their subsistence, one of them stands sentinel, and, on the first note of alarm, a kind of trumpet call, he takes to wing, and the whole flock immediately follow.

The flesh of the American Flamingo is accounted pretty good food, and that of the young is thought by some as equal to the partridge. Davies, in his History of Barbardoes, (p. 88,) says they are commonly fat, and accounted delicate. While of the transatlantic species, Dillon* remarks, that, the inhabitants of Provence always throw away the flesh, as it tastes fishy, and only make use of the feathers, as ornaments. But of this kind, celebrated in history, the ancients esteemed the tongue as an exquisite dainty:† and Philostratus reckoned them among the delicacies of entertainments. Juvenal, upbraiding the Romans with their luxury, says,

* Travels p. 374.

† See Pliny ix. cap. 48.

they cover their tables with the rare birds of Scythia, and with the *phœnicopterus*. Apicius, that deepest abyss of wastefulness, as Pliny calls him, probably cotemporary with Tiberius, was the first who discovered in the tongue of the Flamingo, after being highly seasoned, that exquisite relish, which so recommended it to the epicures. Among the extravagances of Heliogabalus and Vitellius, were dishes of these tongues; and Martial, upbraiding the Romans for their wanton taste, imagines the Flamingo complaining,

> Dat mihi penna rubens nomen; sed lingua gulosis
> Nostra sapit: quid, si garrula lingua foret?

The Flamingo has the neck and legs in a greater disproportion than any other bird. The length from the end of the bill to that of the tail is 4 feet 2 or 3 inches; but to the end of the claws measures sometimes more than 6 feet. The bill is $4\frac{1}{4}$ inches long; as far as the bend black, but from thence to the base, reddish-yellow; round the base quite to the eye, covered with a flesh-colored cere. The tongue is large and fleshy, filling the cavity of the bill, and furnished with 12 or more hooked and reverted papillæ on each side; the tip is also sharp and cartilaginous. The plumage deep scarlet in the adult, except the quills which are black. From the base of the thigh to the claws, measures 32 inches, of which the feathered part takes up no more than 3.

AVOSET. (Recurvirostra, *Lin.*)

In the birds of this genus the bill is very long, weak, slender, depressed throughout its whole length, flexible, recurved from the middle, and slightly curved at the tip; mandibles about equal, and furrowed each side at the base. Nostrils, in the furrow of the bill, basal, long and linear, open. Feet long and slender; 3 toes before, hind toe minute, and articulated high upon the tarsus; the anterior toes webbed to the second joint by a deeply indented membrane. *Wings* accuminated, the 1st primary longest.

The sexes similar, except in size, the female being smaller: the young also differ but little from the adult. They moult but once in

the year; namely, in autumn, acquiring, however, in spring, many additional feathers. The plumage rather thick and close, and well provided with down.

The Avosets live by pairs, or small companies, in inundated marshes, where they are constantly obliged to wade. They run with rapidity in or out of the water, but do not habitually swim, though their feet are almost entirely webbed. Their flight is rapid and long sustained; and they are naturally shy, noisy, and timid. They feed on small fish, insects, and spawn,which they often seize by beating the water, as well as by probing the mud, in the manner of the Woodcock or Snipe. Their nests are usually small cavities in the earth, lined with a few weeds, or merely, the bosom of the bare sand; sometimes, however, the nest is in some measure artificially elevated, as if to avoid the access of expected tides. The eggs are 2 to 4: both sexes take their turns at incubation, and at such times fold their long legs to the body.

The genus consists of 4 species, dispersed respectively over as many quarters of the globe. In form and habits they are closely related to the Stilts *(Himantopus.)*

AMERICAN AVOSET.

(*Recurvirostra americana*, Lin. Wilson, vii. p. 126. pl. 63. fig. 2 Arct. Zool. ii. p. 212. No. 421. Phil. Museum, No. 4250.)

Sp. Charact. — White; tail tinged with cinereous; back and wings black; whole head and neck pale rufous.

The American Avoset, supposed to winter in tropical America, arrives on the coast of Cape May, in New Jersey, late in April, where it rears its young, and with them again retires to the south, early in the month of October. In the spring they were observed by Mr. Say, in the lower part of Missouri. They are also known to visit Nova Scotia, though scarcely ever seen in the State of Massachusetts. Doctor Richardson also found them abundant in the Saskatchewan

plains, as far as the 53d parallel, where they frequent shallow lakes, feeding on insects, and fresh-water crustacea. In New Jersey, they seem to have a predilection for the shallow pools of the salt marshes, wading about often, in search of their prey, which consists of marine worms, small paludinas, turbos, &c. to which, like the European species, they sometimes add, small *Fuci*, or marine vegetables.

The Avosets, near their breeding places, are very noisy, quailing and clamorous; flying around in circles near their invaders, and, in a sharp but plaintive tone, uttering '*clik*, '*clik*, '*clik*, in the manner of the Stilts or Long Legs (*Himantopus,*) with which at times, they familiarly associate, in small numbers, to pass the important period of reproduction. Like them also, they alight on the marsh, or in the water indifferently, fluttering their loose wings, and shaking their tottering and bending legs, as if ready to fall, keeping up at the same time, a continual yelping. The nest, in the same marsh with the Stilts, was hidden in a thick tuft of grass or sedge, at a small distance from one of their favorite pools. It was composed of small twigs of some marine shrub, withered grass, sea-weeds, and other similar materials, the whole raised to the height of several inches. The eggs were 4, of a dull olive color, marked with large irregular blotches of dark brown, mingled with others of a fainter hue. The period of incubation commences about the middle of May.

The Scooping Avoset of Europe, so like to the American species, is very widely spread over the old continent, being found all over Europe, in Siberia, the deserts of Tartary, and even at the Cape of Good Hope. Salerne says, that on the coasts of Bas Poictou, in France, they are so abundant, that, in the breeding season, the peasants take the eggs by thousands. They are said also to be very tenacious of their young, and when disturbed, fly around, uttering a plaintive note, that resembles the word '*twit*, twice repeated.

Buffon, theorizing on the singular structure of the bill of the Avoset, supposes it to be "one of those errors or essays of nature, which, if carried a little further, would destroy itself; for *if* the curvature of the bill were a degree increased, the bird could not procure any sort of food; and the organ destined for the support of life, would infallibly occasion its destruction." As it happens, however, and not as *might be imagined*, the Avoset, no less than the Crossbill, continues not only to live, but to vary its fare, and obtain it with facility. Even the Sloth, that triumph on the occasional imbecility of nature, so wretched and lost upon the plain ground, for which the motions of its peculiar and unequal limbs are not calculated, climbs up a tree with facility, and like the tribe of monkeys, is perfectly at ease in his accustomed arborial retreat. Let us then more wisely content ourselves to observe nature in all her ingenious paths, without daring, in our ignorance, to imagine the possible failure of her conservative laws.

The American Avoset is about 18½ inches long; and 2½ feet in alar stretch. The bill is black, and about 4 inches in length, curving upwards, except at the extremity, where it is reflected and terminated in a fine point. Iris reddish hazel. Head, neck, and breast, of a light sorrel color. Chin, and region round the eye nearly white. Upper part of back and wings black. Scapulars and almost the whole back, white, though generally concealed by the black of the upper parts. Belly, vent, and thighs white. Tail equal at the end, white, with a faint tinge of cinereous. Greater coverts tipt with white; tertials dusky: secondaries white on their outer edges, and whole inner vanes; rest of the wing black. Legs pale, light blue, (greenish black, *Richardson)* 4 inches long,—The *female* about 2 inches shorter. This bird differs from that of the Arctic Zoology, in wanting a white space between the scapulars, and in the white band on the outer scapulars not being continued over the humeral joint.

Note. A second species, with a white, instead of a rufous neck, head and breast, and very nearly allied, if not identic, with the European, or Oriental Avoset, was shot near to the Great Northern

Bend of the Missouri, and is now, I believe, in the extensive museum of the Right Honorable Lord Stanley, at Knowsley Hall.

SPOONBILLS. (Platalea, *Lin.*)

In these the BILL is very long, large, much flattened, dilated and orbicular at the extremity; upper mandible deeply furrowed, and transversely grooved towards its base, terminated by a hooked nail. NOSTRILS, in the furrow, basal, near together, oblong, open, margined by a membrane. *Head* and *Face*, in part, or entirely naked. *Feet*, tarsus, but little longer than the middle toe, robust; the three fore toes united as far as the second joint, by a deeply indented membrane; hind toe long, bearing on the ground nearly its whole length. *Wings* moderate, ample; 1st primary a little shorter than the 2d; second longest. Tail of 12 feathers.

Male and female nearly alike in plumage. The young differ much from the adult, changing the colors of their dress, and the appearance of the bill, until the third year. The moult takes place once in the year.

The Spoonbills associate in small flocks, living in woody marshes, near the outlets of rivers; and are rarely seen in the immediate vicinity of the sea. They wade slowly into the water, after the manner of Herons, but though provided with considerable webs to the feet, they rarely ever swim. Their flight is easy, slow, and conducted usually at a considerable elevation; they also alight on trees, and are said to be noisy, more particularly at the breeding season; and for this purpose, like the Cranes, the males are provided with an extensive and replicated trachea. They feed on small fish, spawn, reptiles, minute shell-fish, insects and worms, and occasionally on vegetable substances, probing the mud with their sensitive and enormous bills, and sometimes they are said to have the art to clatter their mandibles together in such a manner as to scare other birds out of their prey. They nest, according to the convenience of the situation, either in trees, shrubs, or merely in the rushes, on the borders of large lakes, or in the vicinity of the sea coast. The eggs are 2 to 4, hatched by the female alone, who is fed by the male during this period, but both at length join in the charge of the imbecile young, who remain in the nest until fully fledged.

The species, only about three, are spread throughout all the warm and temperate climates, one being confined to Europe alone, and another to the whole extent of the American continent. They are allied in form and habits to the family of the Herons (Herodii.)

ROSEATE SPOONBILL.

(*Platalea ajaja*, Lin. Wilson, vii. p. 123. pl. 63. fig. 1. [an individual of middle age.] Buffon, Pl. Enlum, p. 116. *Ajaja*, Marcgrave, p. 204. Phil. Museum, No. 3553.)

Sp. Charact. — Whole head bald. — Adult red. — Birds of middle age, rose colored. — The *young* white; blackish chestnut, as soon as hatched.

The Red or American Spoonbill chiefly dwells within the tropical regions of the continent, being common in Jamaica,

and other of the West India islands, as well as in Mexico, Guiana, and Brazil. In the southern hemisphere they are said to exist in Peru, and as far down the coast of South America as Patagonia. North of the equator, they migrate in summer into Florida, and are met with to the confines of the Altamaha, in Georgia. Wilson's specimen was obtained up the Mississippi, at the town of Natchez, (about the latitude of 32°.) They are also occasionally met with on the river shores of the Alabama, and in other parts of that state. A straggler has been known to wander as far as the banks of the Delaware.

According to the relation of Captain Henderson, in his account of Honduras, this species is more maritime in its habits than that of Europe, as it wades about in quest of shell fish, marine insects, fry, and small crabs; and in pursuit of these, according to him, it occasionally swims and dives.

The European, or white species, appears to reside in much cooler climes than the American, being abundant in Holland, and even at times visiting the shores of the south and west of England in whole flocks. They are there, however, birds of passage, and in their migrations accompany the flocks of swans. As we have already said, in our remarks on the habits of the genus, the European birds nest in trees, or bushes near to the sea coast, and lay two or three white eggs, about the size of those of a hen, powdered with a few pale rufous spots. Their flesh is said to savor like that of the tame goose, and the young are esteemed as good food.

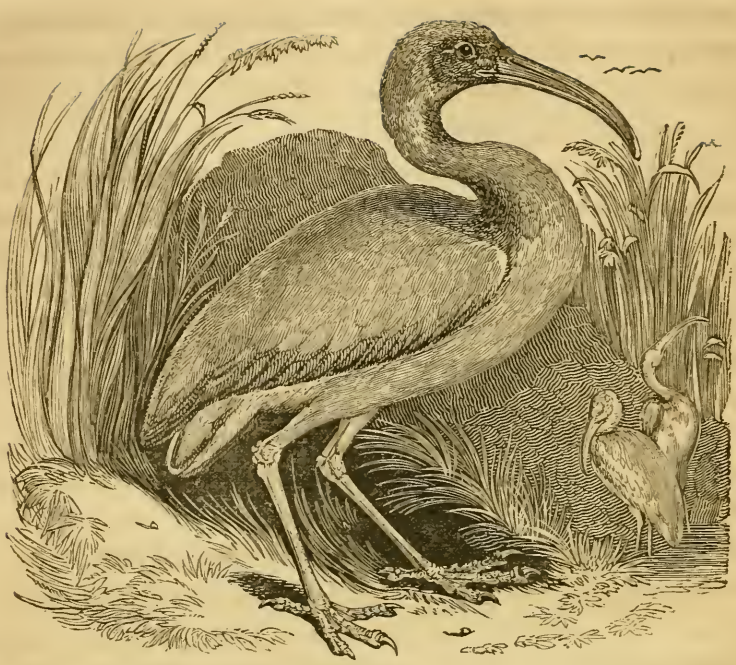
The Red Spoonbill is about 2 feet 6 inches long; and about 4 feet in alar extent. The bill 6½ inches, 2 inches wide at the widest extremity, and only ¾ of an inch in the narrowest part, black for about half its length, and covered with hard scaly protuberances. Tongue very small. Crown and chin bare of plumage, covered with a greenish skin, (at this age of the individual;) the fold of skin below the

under mandible, dilatable as in the Gannet. Space round the eye, orange. Irids red. Cheeks and hind-head covered with a bare black skin. The neck long, covered generally with short white feathers, on the upper part tinged with crimson. Breast white, with a fuliginous tint at the sides; from the upper part of the breast proceeds a long tuft of pale, rose colored capillary plumes. Back white, with a slight brownish tint. Wings rose color, beneath brighter, the shafts deeper; the shoulders of the wings as well as the upper and lower tail coverts, of a full carmine color, the humeral feathers capillary. Belly rose, the rump paler. Tail even, of a brownish orange. Legs and naked part of the thighs, dark sullied red. Feet half webbed; the toes very long, particularly the hind one.

WOOD IBIS. (Tantalus, *Lin. Temm.*)

In the birds of this genus, the bill is stout, as wide as the face at its base, compressed and attenuated, curved only towards the point; the upper mandible not furrowed, notched; the edges approximating so closely as to form a narrow channel; lower mandible not channelled. Nostrils at the base of the bill, contiguous, longitudinal, elliptical, pervious, and uncovered. *Head* naked and warty, cheeks with scattered feathers. *Feet* nearly semipalmated; tarsus twice as long as the middle toe; nails short and rather blunt. The 1st and 2d primaries about equal, and longest.

The genus is composed of but 4 species, one in each grand division of the globe, except Europe.



WOOD IBIS.

(*Tantalus loculator*, Lin. Wilson, viii. p. 39. pl. 66. fig. 1. [adult.] *Curicaca*, Marcgrave. p. 191. Buffon, Ois. vii. p. 276. Pl. Enlum, 868. *Wood Pelican*, Catesby, i. p. 81. Lath. iii. p. 105. Phil. Museum, No. 3862.)

Sp. Charact. — White, face and head greenish blue; quills and tail black, with colored reflections. — *Young* blackish; with the head and neck yellowish white; the belly cinereous. — *Female* with the head and chin only denuded.

This is another tribe of singular wading birds, which emigrate in the summer to a certain distance, on either side of the equator; being found occasionally as far north as Virginia, as far south, in the other hemisphere, as the savannahs of Cayenne and Brazil, and in other parts of South America. In the compass of the United States, their principal residence is in the inundated wilds of the peninsula of

East Florida, and they are not uncommon in Mississippi, Alabama, Carolina, and Georgia, withdrawing from the north, however, at the commencement of cold weather, or about the month of November.

According to Batram, who had many opportunities of observing them in Florida, they are solitary and indolent birds, seldom associating in flocks, and usually frequent the banks of the principal rivers, marshes and savannahs, especially such as are inundated, as well as the larger deserted rice plantations, contiguous to the sea coast. Here, alone, the feathered hermit stands listless, on the topmost limb of some tall and decayed cypress, with his neck drawn in upon his shoulders, and his enormous bill resting like a scythe upon his breast. Thus pensive and lonely, he has a grave and melancholy aspect, as if ruminating in the deepest thought; and in this sad posture of gluttonous inactivity, they, probably like Herons, pass the greatest part of their time, till awakened by the calls of hunger, they become active in quest of their prey of snakes, young alligators, fish, frogs, and other reptiles. They are easily approached and shot, when abandoned to repose, and are by many of the inhabitants accounted as excellent food.

Length of the Wood Ibis about 3 feet 2 inches. The bill nearly 9 inches long, and 2 inches thick at the base, where it rises high in the head, the whole of a brownish horn color; the under mandible fits into the upper in its whole length, and both are sharp edged. Face, naked head, and part of the neck, wrinkled, and dull greenish blue. Irides dark red. Beneath the lower mandible is a loose corrugated skin, or pouch, capable of containing about half a pint. Whole body, neck, and lower parts, white. Primaries dark glossy green and purple. Tail about 2 inches shorter than the wings, even, and of a deep and rich violet. Legs and thighs dusky green. Feet and toes yellowish, sprinkled with black; feet almost semipalmated, and bordered to the claws with a narrow membrane. Plumage on the upper ridge of the neck generally worn with rubbing on the back, while in its ordinary position of resting its bill on the breast.

IBIS. (Ibis, *Lacepede, Cuv. Temm.)*

In these birds the BILL is long, slender, arched, thicker at the base, the point depressed, obtuse, and rounded; upper mandible deeply grooved its whole length; the lower deeply channelled beneath. NOSTRILS basal, oblong, narrow, half closed by a membrane, situated in the furrow. *Face* naked, and often also a part of the head and neck. FEET middling, or slender, naked above the knee; anterior toes webbed to the first joint; the hind toe long and resting on the ground. *Wings* moderate, the 1st primary nearly as long, or much shorter than the 2d and 3d, which are longest.

Species of the Ibis inhabit all quarters of the world. They frequent the borders of rivers and lakes, where they are accustomed to feed upon insects, crustacea, worms, and shell-fish, to which they also, at times, add vegetables. But we may place amongst popular fables, the reputation they have so long enjoyed of being great destroyers of serpents, and venomous reptiles, which, in fact, they never touch. They migrate periodically to such distances, that the boundaries of the earth alone seem to set limits to their wanderings. The moult is simple and annual. The sexes scarcely differ but in their relative dimensions; but the *young* differ in several respects from the adult, particularly in the Scarlet, and some other species.

SCARLET IBIS.

(*Ibis rubra*, VIEILL. BONAP. *Tantalus ruber*, LIN. WILSON, viii. p. 41. pl. 66. fig. 2. [adult.] *Guara*, MARCGRAVE, p. 203. BUFFON, vii. p. 35. Pl. Enlum. t. 81. *Red Curlew*, CATESBY, i. p. 84. LATH. iii. p. 106. Phil. Museum, No. 3864.)

SP. CHARACT. — Scarlet; outer quill-feathers glossy blue-black towards their extremities; face reddish. — *Young* cinereous; back and wings blackish; rump and beneath white.

THIS brilliant and exclusively American species, inhabits chiefly within the tropics, abounding in the West India and Bahama Islands, and south of the equator, at least, as far as Brazil. They migrate in the course of the summer, (about

July and August,) into Florida, Alabama, Georgia, and South Carolina; but retire into Mexico, or the Carribbean islands, at the approach of cool weather. They generally associate in numbers, frequenting the borders of the sea, and the banks and estuaries of neighboring rivers, feeding on small fry, shell-fish, crustacea, worms, and insects, which they collect at the ebbing of the tide. They are said to be in the habit of perching on trees in companies; but lay their eggs, which are greenish, on the ground, amidst the tall grass of the marshes, on a slight nest of leaves. When just hatched the young are black, soon changing to grey, but are nearly white before they are able to fly; by degrees they attain their red plumage, which is not complete until the third year. The young and old associate in distinct bands. In the countries where they abound they are sometimes domesticated, and accompany the poultry. The Ibis shows great courage in attacking the fowls, and will even defend itself from the insidious attacks of the cat. It is generally esteemed as good food; and its rich and gaudy plumage is used by the Brazilians for various ornaments.

The Scarlet Ibis measures 23 inches in length; and 37 in alar extent. The bill is 5 inches long, thick, and of a somewhat square form at the base, gradually bent downwards, and sharply ridged; black, except near the base, where it inclines to red. Iris dark hazel. The face naked, slenderly wrinkled, and of a pale red. Chin bare, and also wrinkled. Whole plumage of a rich and glowing scarlet, except about 3 inches of the extremities of the 4 outer quill feathers, which are of a deep steel blue. Legs pale red; the three anterior toes united by a membrane as far as the first joint.

WHITE IBIS.

(*Ibis alba*, Vieill. *Tantalus albus*, Wilson, viii. p. 43. pl. 66. fig. 3. Catesby, i. t. 82. Arct. Zool. No. 363. Buffon, Pl. Enlum. 915. Phil. Museum, No. .)

Sp. Charact. — White, the old bird tinged with rose color; outer quill-feathers, blue-black at tip; face reddish.

This species, so extremely like the preceding, except in its permanent white color, is likewise common in the tropical parts of the American continent, particularly the Caribbee Islands, and extends its residence, at least as far south beyond the equator, as the coast of Brazil. Wilson observes, that the species appeared to be pretty numerous on the borders of Lake Pontchartrain, near New Orleans, in the month of June; he also saw them on the low keys or islands off the coast of Florida. They rarely proceed to the north of Carolina, which they visit only for a few weeks towards the close of summer; collected probably from their dispersed breeding places, a little previous to the period of their migration back again to the south, which takes place on the return of cool weather. Their food and haunts are altogether similar with those of the preceding species, and like them, they seldom remove to any great distance from the sea. Mr. Bartram remarks, that "they fly in large flocks or squadrons, evening and morning, to and from their feeding places or roosts, and are usually called Spanish Curlews. They subsist principally on cray-fish, whose cells they probe, and, with their strong pinching bills drag them out." They also feed on fry, and aquatic insects, and their flesh is sometimes eaten, but not much esteemed.

Birds of this species may frequently be seen standing on the dead branches of trees, and on the shore resting on one leg, with the body in an almost perpendicular position, and

the head and bill resting on the breast; which indeed appears to be their common mode of reposing, in consequence of which, and as a proof of the habitual indolence of the species, the plumage, as in the Wood Ibis, on the ridge of the neck, and upper part of the back, is evidently worn by the constancy of this habit.

Sometimes, according to Bartram, during the prevalence of high winds, and in thunder storms, they may be seen, collected into numerous flocks, driving to and fro, or turning and tacking about high in the air, during which evolutions with the contending currents of the wind, their silvery plumage gleams and sparkles with unusual brilliance, as it reflects the flashing light from amidst the dark and hovering clouds.

The White Ibis is about 23 inches long; and 37 in alar extent. Bill as in the preceding species, of a pale red, and blackish towards the point. The face, of a reddish flesh color, finely wrinkled. Irids whitish. Whole plumage white, except towards the tips of the 4 outer primaries, which are of a deep and glossy steel blue. Legs and feet pale red, webbed to the first joint.

Scarlet Ibis, in the back ground.

BAY, or GLOSSY IBIS.

(*Ibis falcinellus*, Vieill. Temm. Bonap. Am. Orn. iv. p. 23. pl. 23. fig. 1. [adult.] *Tantalus falcinellus*, Gmel. *T. igneus.* Idem. Latham. *Le Courlis vert.* Buffon, and *Courlis d'Italie.* Id. Pl. Enlum. 819. [the old male.] *L'Ibis noir*, Savigny, Hist. natur. et Mytholog. de l'Ibis, p. 36. pl. 4. *Le Courlis brillant*, Sonnini, edit de Buff. Ois. xxii. p. 238. [an old female.] The young, *Tantalus viridis*, Gmel. Lath. Ind. ii. p. 707. Phil. Museum, No. .)

Sp. Charact. — Purplish-chestnut; crown, middle of the back, wings and tail, metallic green; face blackish — *Young*, head and neck, striped with blackish, and margined with whitish; back and scapulars brownish ash: beneath blackish-cinereous: the wings and tail duller.

The Glossy Ibis, or Liver, appears to be, within the temperate and warmer regions, almost a general inhabitant

of the world. On the borders of rivers and lakes it is seen, for example, abundant as a bird of passage in Poland, Hungary, Turkey, and the Archipelago; it visits the borders of the Danube, is seen sometimes in Switzerland and Italy, rarely in England and Holland; is for seven months a periodical visiter in Egypt; where, in common with the Sacred Ibis, it was revered and embalmed in the vast catacombs of Saccara and Memphis. It arrives in that country in October, and leaves it in the month of March. They are known to breed up the rivers of the Caspian and Black Seas, and to spread themselves into Russia, Siberia, Tartary, Denmark, occasionally into Sweden, and perhaps Lapland, for the same purpose; remaining in those countries till driven to migrate by the inclemency of approaching winter, at which period they appear to arrive in Africa and Asia. It is a still more rare and accidental visiter in the United States, than in England. A specimen has occasionally been exposed for sale in the market of Boston, and individuals are, at distant intervals, shot off Long Island, and on the shores of New Jersey. At very irregular periods, in the spring season, small flocks are thus seen on the coasts of the Middle States, and as far south as Maryland and Virginia. Vieillot also asserts their occasional appearance even in Cayenne, Iceland, and Greenland; and they are found common along the rivers, in the island of Java, and the Celebes.

The Ibises ordinarily dwell together in flocks, in marshy and inundated grounds, exploring for their food with great regularity, side by side advancing, like disciplined troops in an extended line, perambulating the meadows they visit in preference to making a desultory flight, and for hours they are observed boring the same spot with their long and sensitive bills, when their prey is abundant. Sedate in their movements, elevating their feet high in walking, and as it were measuring their steps; they seem by the delicacy of

their actions, as if conscious of the veneration and high regard, symbolically bestowed upon them, by the nations of antiquity. When, however, alarmed, they rise high in the air, in a wide spiral range, uttering loud cries, like geese, and having attained a safe elevation, they file off in an horizontal direction, uttering at intervals, a low and hoarse sound, and their flight being vigorous, they soon disappear from sight. They are said to nest in trees, but of their manners, during the period of reproduction, we are still wholly ignorant, and Temminck believes that they retire to breed in the wilds of Asia. Though Montague thinks their vernal migrations are directed to the less inhabited parts of the north, where they find security about the rivers and interior lakes to propagate, and from whence they retire as the winter approaches, and as their food begins to fail, spreading themselves at this season over the southern parts of Europe and the adjoining continents. According to Oedman, they have been known to breed for several years in succession, in the isle of Oland, in the Baltic. The food of the Ibis is merely insects, worms, river shell-fish and vegetables, which is likewise the real fare of the nearly allied, and also second Sacred Ibis, of the Egyptians, (*Ibis religiosa*, Cuvier,) neither of whom show any predilection for devouring serpents or large reptiles, for which, in fact, the structure of their long and falciform bills is wholly unfitted.

From the supposed utility of the Ibis in destroying noxious reptiles, it was held in the greatest veneration by the Egyptians: to kill it was forbidden under pain of death; they were kept in temples, and when they died, were embalmed, inurned, and deposited with the mummies in the sacred receptacles of the dead. These *bird-pits*, as they are still called, are scattered over the plains of Saccara, and are filled with the numerous remains of this and the Egyptian species.

So highly was it honored, that the Ibis became the characteristic hieroglyphic of the country, repeated upon all their monuments, obelisks, and national statues. The abundance of their remains in the catacombs, proves, indeed, the familiarity which the species had contracted with the indulgent inhabitants of its favorite country; and, like the Stork of Europe, venerated for its *supposed* piety, it gained credit, in the prejudices of the ignorant, for benefits which it never conferred. Diodorus Siculus, however, only adds, what appears by no means improbable, that (impelled by hunger on their first arrival,) night and day, the Ibis, walking by the verge of the water, watches reptiles, *searching for their eggs*, and destroying all the beetles and grasshoppers which it finds. Thus accustomed to favor and immunity, (like our own Vulture scavengers,) in Egypt these birds advanced without fear into the midst of the cities. Strabo relates, that they filled the streets and lanes of Alexandria, to such a degree, as to become troublesome and importunate; and Hasselquist remarks, that in Lower Egypt, as soon as the Nile becomes freed from its inundations, they arrive in such numbers, as to be seen morning and evening, frequenting the gardens, and covering whole palm trees with their flocks. The Egyptian Ibis is likewise said to construct its nest familiarly in the clustering fronds of the date palm, where it lays 4 eggs, and sits, according to the fanciful calculation of Ælian, as many days as the star Isis takes to perform the revolution of its phases.

To enumerate the various fictions and falsehoods with which the ancients have chosen to embellish the history of the Ibis, would be as vain and useless to the naturalist, as to the sober historian. Even Josephus has the credulity to relate, that, when Moses made war on the Ethiopians, he carried, in cages of papyrus, a great number of the Ibis, to oppose them to the serpents! Fables of this kind are now

no longer capable of being substituted for facts, and the naturalist contents himself with the humbler, but more useful employment, of simply describing and delineating nature, as it issued from the hands of its omnipotent Creator. This superstition has also had its day, and the Ibis, no longer venerated, even in Egypt, is in the autumn, commonly shot and ensnared by the Arabs for food, and the markets of the sea coast, are now abundantly supplied with them as game, together with the white species, both of which are ignominiously exposed for sale, deprived of their heads, a spectacle from which the ancient Egyptians would have recoiled with horror. So fickle and capricious, because unreasonable, is the dominion of superstition.

The Glossy, or Bay Ibis, is about 23 inches in length. The head is of a blackish chestnut. Throat, breast, upper part of the back, shoulder of the wing, and all the lower parts, of a bright reddish chestnut. Back, rump, wing coverts, primaries, and tail feathers, of a blackish green, with bronzy and purple reflections. Bill about 5 inches long, greenish black, brown towards the point. Naked space round the eye, green, surrounded by a greyish band. Iris brown. Feet and legs greenish brown. — *Adult*, the female is a little smaller. In the *young previous to the third year*, the plumage of the head, throat, and neck, is striped lengthwise with blackish brown, and bordered with whitish. Lower part of the neck, breast, vent and thighs of a greyish black; top of the back and scapulars cinereous brown; with the green reflections on the wings and tail less lively. In the *young of the year*, the plumage is still more tinged with blackish-ash; and the white borders of the feathers of the head and neck are wider. It is then the *Tantalus viridis* of Gmelin, &c.

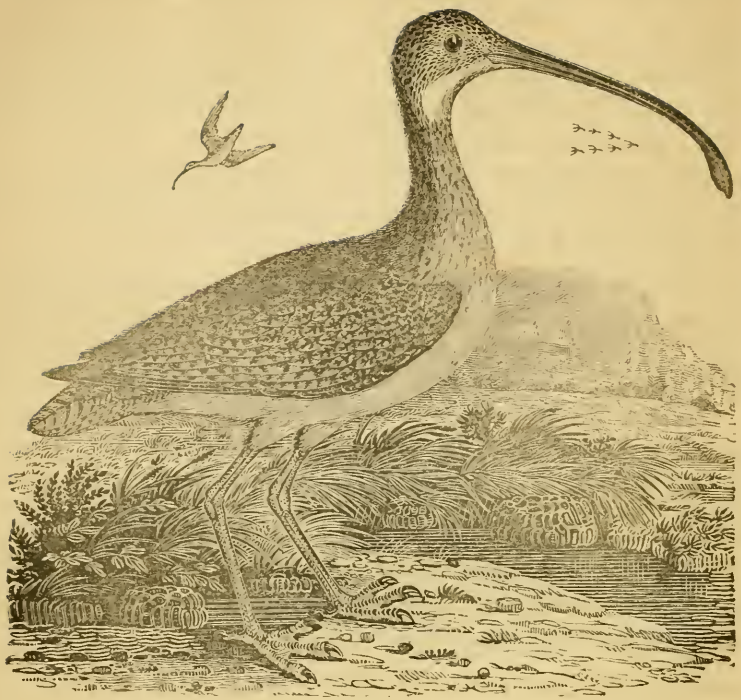
CURLEWS. (Numenius, *Briss. Temm.*)

In the birds of this genus, the bill is very long, slender, almost cylindrical, a little compressed and curved: the upper mandible longer, furrowed for three fourths of its length, and rounded towards

the extremity. NOSTRILS in the furrow of the mandible, basal, lateral, oblong. FEET rather long and slender, 4 toed; naked space of the tibia moderate sized; the anterior toes short, stout, distinctly bordered, somewhat rough beneath, united by a membrane to the first joint; the hind one, bearing on the ground at the tip. *First* primary longest. *Tail* somewhat rounded, of 12 feathers.

The sexes similar in size and color. The bill shorter and straighter in the *young*. The moult tardy, and annual. Plumage in all the species very similar.

These are extremely shy and wary birds, dwelling in the vicinity of the sea, and frequenting muddy marshes as well as arid and gravelly shores, feeding principally on worms, insects of the land and water, small shell-fish, fry, and moluscous animals, in the course of the summer advancing inland, in quest of food. They migrate in large flocks, marshalled in long lines, flying rapidly at a great elevation; but being monogamous, separate into solitary pairs, at the breeding season; making their nests in marshes, dunes, or herbage, near the sea, laying about 4 eggs, on which both sexes sit in turn. Their voice is loud, plaintive, and whistling. The species are spread over the whole globe: three of these are peculiar to the old continent, and three or four to America.



LONG BILLED CURLEW.

(*Numenius longirostris*, Wilson, viii. p. 23. pl. 64. fig. 4. Bonap. Synops. No. 242. Phil. Museum, No. 3910.)

Sp. Charact. — Crown blackish, with whitish streaks, no medial line; rump uniform in color with the rest of the plumage; long axillary feathers ferruginous, without bars; the bill very long, and much arched.

The Long Billed Curlew is seen in the marshes of New Jersey, about the middle of May, on its way further north: and in September, or the latter end of August on their return from their breeding places. How far south they retire in the course of the winter, has not been ascertained, but a few, no doubt, winter in the marshes of South Carolina, as I have observed them on the muddy shores of the Santee,

near Charleston, in the month of January. Their southern migrations, in all probability, are bounded by the shores of the Mexican Gulph. Like most species of the genus, they retire into the desolate regions of the north to breed. Dr. Richardson believes, that they frequent the plains of the Saskatchewan and the Columbia, at this season; and they are known to visit the neighborhood of Hudson's Bay. In Major Long's Expedition, it appears that some of these birds were observed as far inland as the Illinois, latitude 42°, on the 15th of June, which might be supposed, about the time of breeding. According to Wilson, a few instances have been known, of one or two pairs remaining in the salt marshes of Cape May the whole summer; and they were believed to nest there on the ground, laying 4 eggs in size and color much resembling those of the Clapper Rail. Indeed, it will probably be found, that many birds, now supposed to pass the period of reproduction, in the remote regions of the north, only separate into solitary pairs, and disperse themselves through the vast wilds of the interior of North America.

The Long Billed Curlews fly high and rapid, generally throwing themselves, when in company, into an angular wedge, after the manner of wild geese; uttering, as they fly, and when at all alarmed, a loud, short, whistling, and almost barking note, sometimes, as in other species of the family, strongly resembling the sibilation of the word *kurlew*, and from whence they derive their characteristic name, adopted into so many of the European languages. By a dexterous imitation of this note, a whole flock may sometimes be enticed within gun shot; while the cries of the wounded continue the sympathetic enticement, until the fowler, repeating his shots, carries havoc among the quailing throng. Their food consists principally of insects, worms, and small crabs. The young and old, also, on their arrival

from the north, where they feed on various kinds of berries, still continue their fondness for this kind of food, and now frequent the uplands and pastures in quest of the fruit of the bramble, particularly dew-berries, on which they get so remarkably fat, at times, as to burst the skin in falling to the ground, and are then superior in flavor to almost any other game bird of the season. In the market of Boston, they are seen as early as the 8th of August, having already raised their brood, and proceeded thus far towards their winter quarters.

This species is about 25 inches in length; 3 feet 3 inches in alar extent; and in good order, it weighs about 30 ounces. The bill is about 7 inches long, brownish-black, purplish flesh-color, below towards the base. Tongue extremely short. Eye dark. Upper plumage blackish-brown, spotted and interruptedly barred with different shades of rufous buff. Chin, line over the eye, and around it, brownish-white, in the latter spotted with dusky brown; neck pale whitish buff, streaked with black. Belly, thighs, and vent, rufous white, without spots. Primaries, brownish-black, on the outer edges, pale rufous on the inner, and barred with black; shaft of the 1st quill white; the rest of the wing, pale reddish brown, barred with waving lines of dusky; lining of the wing much brighter than the rest of the lower plumage, salmon rufous, sparingly spotted with blackish; tertiaries paler, narrowly and faintly barred with dusky: long axiliaries plain, or with a few remote, dusky marginal specks. Tail rounded, pale rufous, with about 10 dusky brown bars. Legs and naked thighs, pale greyish-blue, or lead color. The lighter colors are much brighter and more extensive in the young than in old birds.

ESQUIMAUX CURLEW.

(*Numenius hudsonicus*, Lath. Ind. ii. p. 712. sp. 7. Bonap. Synops. No. 243. *Scolopax borealis*, Wilson, vii. p. 22. pl. 56. fig. 1. Phil. Museum, No. 4003.)

Sp. Charact. — Crown dark brown, with a whitish medial line: plumage of the rump uniform with the rest; long axillary feathers banded with grey and pale rufous; bill much arched.

The Short Billed Curlew, after passing the winter south of the United States, arrives in large flocks, on the coast of New Jersey, early in May, frequenting the salt marshes, muddy ponds, shoals, and inlets; feeding, at this time, on small worms, land and marine insects, fry, minute shell-fish, and sometimes the seeds of aquatic vegetables, which they usually collect at the recess of the tide, in company with various other waders; and at high water retire into the marshes, and sometimes to the dry ridges, and pastures, particularly at a later period, in June, where accompanied by the Long Billed species, they feed much on dew-berries, becoming very fat and well flavored. In the northern regions, and the fur countries, to which they retire to breed, they also collect Crow-berries (*Empetrum migrum*) for food. In June, they take their departure to the north; collecting together from the marshes in one general flock, they rise to a considerable elevation, about an hour before sunset, and forming a long angular phalanx, keep up a constant whistling on their march, as if conversing with each other, in order to forget or lessen the toil and hazard of their adventurous journey. Their flight is steady, like that of the Woodcock; and, in consequence of their sympathy for each other, readily come within gun shot of those who can imitate their call. While thus beating the air in company, the transient glittering of their speckled wings, as they glide

along in ease and elegance, presents an interesting spectacle, no less beautiful than amusing. Arriving, at length, in their natal regions in the wilds of the north, they soon obey the instinct of their species, and making probably a nest on the ground, lay about 4 eggs, which, according to Mr. Hutchins, are of a light bluish-grey color, marked with black (or dark brown) spots. From the middle of August, to the beginning of September, they arrive in the vicinity of Massachusetts Bay, and other parts of New England, frequenting the pastures as well as marshes, and fatten upon grasshoppers and berries, till the time of their departure, about the close of September; and they wholly disappear from New Jersey, on their way to the south, early in the month of November. Previous to their departure, they again assemble in large flocks, near the sea beach, being constantly gregarious in all their journeys. In an island of the Piscataquay, near Plymouth, (N. Hampshire,) a friend informs me, that they had, in the autumn, been seen together in a dense flock of many thousands, thickly covering several acres of ground with their numbers.

When much hunted, they become extremely shy and difficult to approach; yet the same bird, shot at, three or four different times, and recovering when about to be picked up, still, notwithstanding this persecution, continued to feed again in the same spot. These birds, though so exquisite in flavor, in the autumn, when as abundant as usual, are sold in Boston market for about twenty to twenty-five cents each. As early as the 18th of July, I have met with individuals of this species, one of which, on dissection, proved to be an old and barren male, who in all probability, had remained behind the flock in the same vicinity where he had arrived in the spring, having no incentive to migration. Whether other specimens, killed at this season, before the return of the general flock, are in-

fluenced by the same cause to linger behind, or wander from the rest, I am unable to say.

The young of the common Curlew of Europe (*N. arquata,)* run as soon as they are hatched, but cannot fly for a considerable time. Mr. Rennie succeeded in taming one which had been shot in the wing. At first it was extremely shy, but, at length, fed with some domestic Ruffs, on bread and milk, with which it soon became fat. In a month or six weeks, it was tame enough to follow a person across the menagerie for a bit of bread, or a small fish, of which it was remarkably fond; besides this diet, he fed on water lizards, small frogs, and every kind of insect not too large to swallow; and, in defect of other food, he contented himself to eat barley with the ducks. This bird survived with this treatment for two years, when he was at last killed, as was supposed, by a rat.

The note of the Whimbrel, so nearly allied to the present species, is said to sound like the words *'weddy tetty tetty tetty tet*, quickly repeated.

The Esquimaux Curlew is about 18 inches long; and 32 inches in alar extent. The bill to the rictus (in Richardson's specimen) is 3 inches 6 lines; in Wilson's 4½ inches! in a specimen now before me 3 inches 8 lines. In a young, but very full grown bird of September, the bill, remarkably slender, scarcely exceeds 2 inches! (In Wilson's bird the extraordinary curvature of the bill is no less remarkable than its unusual length,) its color in our specimens, brownish black, towards the base of the *under* mandible purplish flesh-color, straight almost for two thirds of its length, and then rather suddenly curving. Upper part of the head dusky brown, divided by an obscure stripe of whitish; over each eye extends a broad paler line. Iris dark hazel. Sides of the head, neck, and breast, dull yellowish white, with narrow stripes (passing into bars on the breast) of pale dusky brown. Chin, belly, and under tail coverts white, the latter more or less tinged with buff. *Upper plumage*, as well as the rump and lores, dusky brown, with brownish-white marginal spots, which become bars on the lesser quills and tail coverts. Pri-

maries dusky brown, *all* distinctly *barred on their inner webs* with pale reddish buff, the shafts of the two first white, less pure on the second. Tail dark brownish-grey, with 9 dusky bars, one of these terminal, but edged with brownish-white. — Flanks, long axillaries, and under wing-coverts bright reddish-buff, (almost salmon color,) barred with clove-brown. A few of the larger primary wing-coverts wholly dusky, tipped with whitish, more particularly in the young birds. Legs and feet dark lead color. In *young* birds the pale spots, bands, and bars, are much larger, fainter, and more inclining to flesh-color, and the lower half of the under mandible is almost yellowish-white. The tinge of buff on the belly and vent, is also deeper. In Wilson's specimen, the *whole* bill is dull flesh-color, except towards the point, where it is dusky.

Obs. Our bird appears to differ from that of Richardson and Wilson, in the situation and extent of the curvature of the bill, and in the conspicuous bars on the inner vanes of the primaries; ours, therefore, makes a much nearer approach to the Whimbrel, *(N. phæopus,)* than any other American species, if such it may be considered; indeed, the European bird, only differs in the paler shade of its colors, the *white* rump, and absence of buff in the long axillaries. Should our bird prove a distinct species, which seems very probable, we may perhaps distinguish it as follows:

AMERICAN WHIMBREL.

*(Numenius *intermedius. N. phæopus*, Temm. excluding the other synonymy of that species.)

Sp. Charact. — A whitish medial line in the dark crown; rump and back dusky and spotted; primaries barred on their inner webs; long axillaries banded with grey and reddish buff; bill black, curving towards the extremity, a great portion of the under mandible flesh-color.

My friend Mr. Audubon has also observed this species, and believes it to be sufficiently distinct from the bird figured by Wilson.

SMALL ESQUIMAUX CURLEW.

(*Numenius borealis*, Latham. Bonap. Syn. No. 244. Am. Orn. iv. p. 118. pl. 26. fig. 3. Richard. North. Zool. ii. p. 378. t. 65. *Scolopax borealis*, Forster. Phil. Trans. 62. pp. 411,—431. *N. brevirostris*, Temm. pl. color. 381.)

Sp. Charact. — Crown dusky, with an obscure medial line towards the hind head; rump dusky and spotted; axillaries banded with dusky and rufous; bill short and slender, but little arched.

The Small Curlew, in the course of its vast migrations, occasionally visits almost every part of the American continent; penetrating even into the remote territories of the west, coursing along the great valley of the Mississippi, and extending its wanderings into the southern hemisphere as far as Brazil and Paraguay. They arrive at Hudson's Bay in April, or early in May, but breed to the north of Albany Fort, returning to the marshes with their young in August, and retire from that country early in September. Indeed the species, accompanied probably by the preceding, frequents in summer, the wide extent of barren lands within the Arctic circle, feeding usually on aquatic insects, their larvæ, and when ripe, the fruit of the crow-berry, (*Empetrum nigrum.*) On the 13th of June, (1822) Dr. Richardson discovered one of these Curlews, sitting on three eggs, on the shore of Point Lake. When approached, she ran a short distance from the nest, crouching near to the ground, and then stopped to watch the motions of her encroaching visitor. The eggs, sometimes as many as 4, have a pyriform shape, and a siskin-green color, clouded with a few large irregular spots of bright umber brown.

About the close of August or beginning of September, these birds, accompanied by the preceding, arrive on the shores of Massachusetts Bay, and frequenting the marshes and adjoining pastures, feed at this time much upon grass-

hoppers, coleoptera, and earth worms, which they collect principally towards evening, or early in the morning. In their way to the south they also visit Nova Scotia and Newfoundland, where they remain till the approach of winter; and in New Jersey, these birds linger on till the month of November, when they apparently, without further delay, pass on to the south of the United States, for in other parts of the Union they appear to be wholly unknown. Like the other species, they are remarkably gregarious, each company seeming to follow some temporary leader, and on starting to wing, a sort of watch cry is heard, resembling the whistling pronunciation of the word *bee-bee*. On their arrival from the north, they are very fat, plump, and well flavored, and included like both the preceding, and the Marbled Godwit, under the general name of *Doebirds*, they are sought out by epicures, and enhance the value of a table entertainment. Pennant remarks, on the authority of Hutchins, that from the 9th of August, to the 6th of September, they were seen in flocks innumerable on the hills about Chatteux Bay, on the coast of Labrador, soon after which they all departed for the south: at this time, they kept chiefly on the open grounds, and feeding on Crow-berries, were very fat and well flavored.

Length of the Small Curlew, from 14 to 15 inches; the female more than an inch longer. Bill slender, brownish-black; slightly flesh-red at the base, its length from above about $2\frac{1}{4}$ inches. The *upper plumage* blackish-brown, with many pale yellowish-brown marginal spots, these colors forming handsome bars on the lesser quills and tail coverts. The whole of the primaries and their coverts are unspotted, only the posterior ones are edged at the tip with white; the shaft of the first quill very broad and white. An imperfect medial line is visible on the nape. Tail dusky brown, with 9 blackish bars, the exterior web of the outermost feather elegantly barred with light buff and black. Chin, and band over the eye brownish-white, the latter faintly streaked with dusky. *Under plu-*

mage nankeen-brown; the neck and sides of the head thickly striped with dusky-brown; the breast and flanks marked with arrow headed spots of the same, which exist on the belly also, though smaller and more scattered. Inner wing coverts and long axillaries, bright reddish-brown, barred with dark cinereous. Legs blackish-grey, tinged with olive; soles of the feet and margins of the toes olive. — *Female*, with the color of the plumage paler, the spots and bars below, fainter, and the general color below nearly rufous-white. Medial line on the head obsolete.

SANDPIPERS. (Tringa. *Briss.*)

In this tribe of birds the BILL is of moderate dimensions, or rather long, slender, nearly cylindric, straight, or faintly curved, soft and flexible its whole length, compressed at base, the point smooth, depressed, somewhat dilated and obtuse; both mandibles furrowed each side, to their tips. NOSTRILS situated in the furrows, basal, linear, pervious, and covered by a membrane. FEET 4 toed; tarsus slender; fore toes rather long and slender, generally divided; hind toe very short, scarcely touching the ground. *Wings* moderate, 1st primary longest. *Tail* rather short, of 12 feathers.

The sexes similar in color, but the female somewhat larger. The young differ from the adults. They moult twice in the year, greatly changing the color of their plumage; the autumnal dress is commonly a mixture of white and cinereous; the dress of summer and of the period of reproduction, being a mixture of the more decided colors of black and rufous.

These gregarious birds migrate and breed in flocks, often composed of different species, and dwell in marshes near rivers, lakes, and particularly the vicinity of the ocean; they frequent sandy coasts, muddy shores, or the rocks covered with sea weeds, where they collect their subsistence, consisting principally of coleoptera, larvæ, worms, small crustacea, molluscous animals, and minute bivalve shell fish, which they often probe out of their retreats, by inserting the point of their flexible and somewhat sensitive bills; accommodating themselves also to circumstances, they drink, and quench their thirst, indifferently with either salt or fresh water. They generally migrate along the borders of the sea, but sometimes also follow the meanders of

rivers. Vagabond and wild in their habits, some of the species have spread themselves over the whole world; but in general, they seek out the remotest wilds of the north in which to pass, without molestation, the period of reproduction.

Subgenus.—TRINGA. *(True Sandpipers.)*

WITH the anterior toes all cleft to the base.

CAPE CURLEW, OR SANDPIPER.

(Tringa subarquata, TEMM. *Scolopax africana*, GMEL. i. p. 655. sp. 19. *Numenius africanus*, LATH. *L'Alouette de mer*, BUFFON, Pl. Enlum, 851. a good figure in the commencing moult of winter.)

SP. CHARACT. — Bill much longer than the head, somewhat arched; rump white; middle tail feathers longest, the lateral ones white internally; tarsus shorter than the bill, $1\frac{1}{4}$ inches long. — *Summer* plumage varied with black and rufous, beneath reddish brown. *Winter* plumage, cinereous, beneath white.

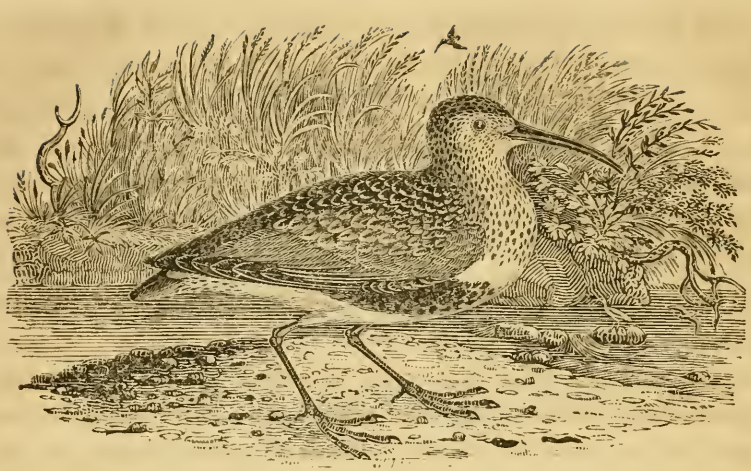
OF this species very little is known. It frequents the sea coast and the borders of lakes, and is sometimes seen in the interior of the countries it frequents. Like most species of the genus, it is migratory in the spring and autumn, and at such times proceeds in flocks along the coast, or on the borders of large rivers. They are seen in Switzerland and France; nesting sometimes in Holland upon the margins of water courses, laying 4 or 5 eggs, which are yellowish, with brown spots. The food of this bird is usually small insects, and worms, as well as the herbage of some of the sea weeds, *(Fuci.)* So wide are the devious wanderings of this cosmopolite pigmy, that Temminck obtained a specimen from Senegal, another from the Cape of Good Hope, (as is also indicated by Latham's name of the Cape Curlew,) and a third from North America.

The Long Billed Sandpiper is about 8½ inches long; by about 15½ inches in alar stretch. Bill black, an inch and a half long, and bent. *Winter plumage* of the adults. — The face, line over the eyes, throat, upper tail coverts, vent, and all the lower parts pure white. A brown line between the bill and eye. Top of the head, back, scapulars, and wing coverts, of a cinereous brown, with small touches of a deeper color along the shafts. Nape striped longitudinally with brown, and bordered with whitish; the fore part of the neck and breast the same, but paler. Tail grey, edged with white, the outer feathers white within. Iris brown. Feet and legs pale green, brown or blackish-grey when dry.

In the *young, before the first moult*, the colors are nearly as in the winter plumage of the adults, but the feathers, of the middle of the back, the scapulars, and wing coverts, are of a blackish ash color, all fringed and terminated by a large band of yellowish-white. No distinct spots on the breast, which is faintly clouded with yellowish, white, and pale brown. The bill is already long and feebly arched; and the feet brown. — *Numenius pygmæus*, Bechstein.

Plumage of summer and the nuptial season. The face, line over the eye, and throat white, dotted with brown. Summit of the head black, the feathers with rufous borders. Nape rufous, with small longitudinal touches of black. Throat, breast, vent and abdomen, of a reddish-brown, often sprinkled with small spots of brown, or at times varied with some white feathers. Upper and lower tail coverts white, transversely lined with black and rufous. Back, scapulars, and large wing coverts, deep black, upon the borders of these feathers are a row of angular bright rufous spots, most of them tipt with pale ash color. Tail of a blackish ash, edged with white.

Obs. — Individuals differ in size according to local circumstances; and in the female the bill is always longer than in the male.



DUNLIN, OR OX-BIRD.

(*Tringa alpina*, Lin. Wilson, vii. p. 25. pl. 56. fig. 2. Red-backed Sandpiper, [summer dress.] *T. variabilis*, Temm. also *T. cinclus*, Lin. (The Purre.) Wilson, vii. p. 39. pl. 57. fig. 3. [winter dress.] Phil. Museum, No. 4094, and 4126.)

Sp. Charact. — Bill black, longer than the head, slightly curved at the point; rump blackish; middle tail feathers longest; tarsus little more than an inch long. — *Summer* plumage varied with black and rufous, beneath black and white. *Winter* dress ashy-brown, beneath white.

The Dunlin, or Red-backed Sandpiper of the United States, according to the season of the year, is met with throughout the northern hemisphere; penetrating, in America, during the summer season, to the utmost habitable verge of the Arctic circle, and even breed in that remotest of lands, the ever wintry shores of Melville Peninsula. They likewise inhabit Greenland, Iceland, Scandinavia, the Alps of Siberia, and the coasts of the Caspian. In the southern hemisphere, they sometimes even wander as far as the Cape of Good Hope; and are found in Jamaica, other of the West India Islands, and Cayenne. In the autumn they are seen around Vera Cruz, and with other Sandpipers, probably, ex-

posed for sale in the market of Mexico. At the same time, many, as the Purres in their winter dress, remain through the greatest part of the winter within the milder limits of the Union; frequenting, at times, in great numbers, the coasts of both Carolinas during the month of February; flitting, probably, to and fro with every vaccillating change of temperature, being naturally vagabond, and no where fixed for any considerable time, until their arrival at the ultimate Thule of the continent, where they barely stay long enough to rear a single brood, destined, as soon as they are able, to wander with the rest, and swell the aërial host, whose sole delight, like the untiring Petrels of the storm, or the ambitious Albatross, is to be in perpetual action; and are thus, by their associated numbers, obliged perpetually to rove in quest of their transient, periodical, and varying prey.

In the middle states, the Dunlins arrive on their way to the north, in April and May; and in September and October, they are again seen pursuing the route to their hybernal retreat in the south. At these times they often mingle with the flocks of other strand birds, from which they are distinguishable by the rufous color of their upper plumage. They frequent the muddy flats and shores of the salt marshes, at the recess of the tide, feeding on the worms, insects and minute shell-fish, which such places generally afford. They are also very nimble on the strand, frequenting the sandy beaches which bound the ocean, running and gleaning up their prey with great activity, on the reflux of the waves.

These birds, when in their hybernal dress, are seen, in conjunction with several species, sometimes collecting together in such flocks, as to seem at a distance, like a moving cloud, varying in form and appearance every instant, while it performs its circuitous, waving, and whirling evolutions along the shores with great rapidity; alternately

bringing its dark and white plumage into view, it forms a very grand and imposing spectacle of the sublime instinct and power of nature. At such times, however, the keen gunner, without losing much time in empty contemplation, makes prodigious slaughter in the timid ranks of the Purres; while as the showers of their companions fall, the whole body often alight, or descend to the surface with them, until the greedy sportsman becomes satiated with destruction.

The Dunlins breed plentifully on the Arctic coasts of America, nesting on the ground in the herbage, laying 3 or 4 very large eggs, of an oil-green, marked with irregular spots of liver-brown, of different sizes and shades, confluent at the larger end. Mr. Pennant also received the eggs of this kind from Denmark, so that the range in which they breed, no less than that in which they migrate, is very extensive.

The length of the Dunlin is from 8, to 8½ inches. The bill black, about an inch long. In the *winter plumage of the adults of both sexes*, the throat, line from the upper mandible to the eye, all the under parts, (with the exception of the 3 exterior feathers of the under tail coverts,) pure white. Breast whitish-ash. A line between the bill and eye, and all the upper parts of a greyish-brown, with deeper tints along the shafts of the feathers. Rump, intermediate feathers of the upper tail coverts, and the two middle feathers of the tail, of a blackish-brown; lateral tail feathers cinereous, bordered with white. Iris, and feet of a blackish-brown. — *T. cinclus*, of authors.

Nuptial and summer plumage. The throat white, face, sides and fore part of the neck, sides of the head and breast, white, faintly tinged with rufous, the feathers streaked lengthwise with black. Vent and abdomen wholly black, often, according to the epoch of the year, varied with some white feathers. Feathers of the head, black in their centres, bordered with rufous brown. Back, scapulars, and greater coverts, black, the black widely bordered with bright rufous, and tipt with whitish-ash. The 3 lateral feathers of the upper tail coverts white only on their outer barbs. Tail feathers blackish-ash, bordered with white. — *T. alpina*, of authors. *T. variabilis*, Meyer. Temm.

Usual *moulting plumage*, and that of *the young in autumn*. With the throat, line from the upper mandible to the eye, abdomen, and lower tail coverts, white. A brown line between the eye and the bill. Throat and breast of a rufous yellow, with longitudinal brown spots. Some spots of blackish-brown upon the vent, numerous or scattered. Plumes of the back and scapulars black, bordered with pale rufous and yellowish; mingled with patches of ash-colored feathers, indicative of the passage into the winter livery. Wing coverts brown, bordered with yellowish-rufous. — In the *young* bird the bill is straight; and in the old its length often varies. — In a *young bird* (now before me,) with the wings, feet, and bill of *T. cinclus*. the upper part of the back and the scapulars are brownish-ash, scarcely edged with whitish. The whole neck, head, face and breast, brownish-ash, pale on the latter, with the centre of the feathers darker: flanks also sparingly spotted with the same, the rest of the under plumage white.

SCHINZ'S SANDPIPER.

(*Tringa Schinzii*, Brehm. Bonap. Synops. et Am. Orn. iv. p. 69. pl. 24. fig. 2. [winter dress].)

Sp. Charact. — As in the preceding; but the species smaller, with the bill proportionably smaller; the white, upper tail coverts more extensive.

This species, so nearly related to the preceding, is also common to both continents; penetrating inland in America, to the western plains of the Mississippi, and inhabiting the shores of the small lakes, which skirt the plains of the Saskatchewan, and probably the remoter wilds of the Arctic circle. According to Bonaparte, they are rather common on the coast of New Jersey in autumn, and Mr. Oakes met with this species in the vicinity of Ipswich, in Massachusetts. They are either seen in flocks by themselves, or accompanying other Sandpipers, which they entirely resemble in their habits and food; frequenting marshy shores, and the borders of lakes and brackish waters. They associate in the breed-

ing season, and are then by no means shy; but during autumn, accompanying different birds, they become wild and restless. Their voice resembles that of the Dunlin, but is more feeble; and they nest near their usual haunts, by lakes and marshes, laying 4 eggs, smaller than those of *T. alpina*, of a yellowish-grey, spotted with olive or chestnut-brown.

The length of this species is 7, to 7½ inches; alar extent 14. Bill nearly an inch long, compressed and black from the base, (brown, *Richardson.*) — *Winter dress.* The crown, neck above, and interscapulary region, of an ashy-brown, darker in the centre of each feather. Upper tail coverts white, blackish along the shafts, and towards the margin of the outer vanes. A whitish stripe from the bill over each eye. Cheeks, sides of the neck, and breast, whitish, streaked with pale dusky, along the shafts of the feathers. Throat, and all the rest of the parts beneath, white. Wing coverts darker than the body, with pale margins, inner great coverts with white tips. Primaries blackish-ash, secondaries paler, margined with whitish. Tail 2¼ inches long, the 4 lateral feathers each side, nearly equal in length, pale ash, margined and shafted with white, the 5th each side blackish-ash, a little longer than the preceding, with a pure white marginal tip on the inner web; the 2 middle feathers longest, and blackish. Feet blackish: tarsus 7 eights of an inch long. — The *Summer dress* analogous to that of *T. alpina*, but the colors less bright; the breast never so broadly black. *Summer dress.* — Centres of the *upper plumage* blackish-brown, the edges ferruginous on the shoulders and scapulars; but grey on the neck, posterior part of the back, and rump. Lateral tail coverts white, marked near the tips with clove-brown; the central pair blackish-brown, tipped with white. Tail feathers broccoli-brown, edged with white, the central pair blackish-brown with narrow edgings, rather acute, and longer than the others. Wings blackish-brown; margins of the lesser coverts paler; outer borders of the quills, centres of their shafts, and the tips of the secondaries and greater coverts, white. Region of the bill, a streak on the lores, and the ear feathers brownish. Below, white; but with the sides of the head, throat, breast and flanks, spotted with blackish-brown. Bill dark-brown, paler at the base of the lower mandible, shorter than the head, straight, the tip depressed and slightly drooping. — *(male.)*

PECTORAL SANDPIPER.

(*Tringa pectoralis*, Bonap. Synops. et Am. Orn. iv. p. 43. pl. 23. fig. 2. [summer dress.] *Pelidna pectoralis*, Say, in Long's Expedition.)

Sp. Charact. — Bill about the length of the head, compressed at the sides, and dull reddish-yellow at the base; rump black; middle tail feathers longest; feet olive color, tarsus one inch long. — *Summer plumage* varied with black and rufous, beneath white; breast rufo-cinereous, lineated with blackish. *Winter dress*, cinereous-brown, beneath white?

This conspicuous species of Sandpiper, first detected by Mr. Say, is by no means uncommon in various parts of the United States; migrating north, and perhaps west, to breed, as they are common in the remote plains of the Mississippi, and retire at the approach of winter to the southern limits of the Union, being met with at this season also in the West Indies. According to d'Azara and Bonaparte they are found even in Brazil and at Montevideo. They are killed in abundance on the shores of Cohasset, and other parts of Massachusetts Bay, and are brought in numbers to the market of Boston, being very fat and well flavored. They arrive in flocks about the close of August, and continue here, as well as in New Jersey, till the month of September, and perhaps into October. In some instances, solitary individuals have been killed in the marshes of Charles river, in Cambridge, about the 22d of July; these were in company with the flocks of small Sandpipers (*T. Wilsonii,*) but, whether pairs may perhaps breed in the neighboring marshes, or not, we have not had the means of ascertaining.

While here, they feed on small coleoptera, larvæ, and the common green *Ulva lattissima*, as well as some species of *Fucus* or sea-weed, on which they become very fat. They utter a low plaintive whistle when started, very similar to th of some other species. Like the Snipe, they seem fond of

damp meadows and marshes, and solitary individuals are often surprised by the sportsman in the manner of that bird.

The Pectoral Sandpiper is commonly about 10 inches in length, though individuals sometimes occur a full inch shorter. Bill from the rictus, or opening of the mouth, a little more than an inch, of a purplish flesh-color, inclining to yellow below, and nearly black at the tip. Legs and feet olive. *Upper plumage* (in summer.) above black, deepest on the head, back, and scapulars, fading into dusky on the neck, and wing coverts, with all the feathers bordered with rufous, deepest on the head and shoulder of the wings, in the pale parts of the edgings becoming gradually and softly diluted into, or mixed with, white. Outer edges of the scapulars and contiguous plumage, white: larger wing coverts edged with white only. Quills all *spotless* and dusky, the shaft of the first, white. Rump black, white at the sides. *Under plumage*, throat and breast, to the shoulders of the wings blackish-ash, extending in lines along the shafts of the feathers, which are there broadly tipt with brownish-white; the rest of the plumage and chin, nearly white. — In *young* birds, the black feathers of the rump are faintly edged with rufous: the plumage of the breast is paler, more broadly and delicately edged with rufous white, a color also pervading the chin, which is likewise without spots, (but in the adult more white, and always more or less mottled.) Long axillary feathers white. In some birds the rufous edgings of the back and scapulars are diluted with yellowish. — In the old birds of *summer before moulting*, the wing coverts and tertials are worn to sharp points, and divested of their rufous margins, in consequence of their constant habit, (in common with other species) of threading their way through the sedge grass of the marshes, in quest of insects. — Whether this species becomes white on the breast in winter, or not, I cannot say, from experience, but doubt the fact.

BUFF-BREASTED SANDPIPER.

(*Tringa rufescens*, Veillot, *Le Tringa rousâtre*, Nouv. Dict. d'Hist. Naturelle 2de. edit. xxxiv. p. 470. Encycl. Method. p. 1050. Yarrel. in Lin. Transact. xvi. p. 109. t. 2.)

Sp. Charact. — Bill blackish, scarcely the length of the head, nearly straight; below pale ferruginous; inner webs of the primaries mottled; rump blackish; legs and feet brown: tarsus 15 lines long. — *Summer plumage* varied with black and brownish-rufous; beneath rufous, much paler on the abdomen. *Winter dress* unknown.

This elegant species, some seasons, is not uncommon in the market of Boston, in the month of August and September, being met with near the capes of Massachusetts Bay. My friend, Mr. Cooper, has also obtained specimens from the vicinity of New York; and it was first discovered by Veillot, in the then territory of Louisiana, so that, coursing along the shores of the Mississippi, and thus penetrating inland, it probably proceeds, as well as in the vicinity of the sea coast, to its northern destination, to breed, and is often here associated with the Pectoral Sandpiper, which it resembles very much in size, and bill, though perfectly distinct in plumage. As a proof, how wide it wanders, this species has also been rarely obtained, even in France and England, and a specimen figured in the Linnæan Transactions of London, is there given as a new addition to the Fauna of that country. It was shot in September 1826, in the parish of Melbourne, Cambridgeshire, in company with the Siberian Plover or Guignard (*Charadrius morinellus.*)

Its food, while here, consists principally of land and marine insects, particularly grasshoppers, which abounding in the autumn, become the favorite prey of a variety of birds; even the Turnstone at this season, laying aside his arduous

employment, is now content to feed upon these swarming and easily acquired insects.

The length of the Buff-Breasted Sandpiper is from 8 to 9 inches. The bill is slender, very slightly curved, brownish-black, ¾ of an inch measured from above, an inch from the rictus, and from this part to the occiput about the same. Top of the head dark brown, the feathers edged with very light brown; back of the neck light brown, with minute longitudinal darker spots, the back darker, the feathers tipt with brown. Wing coverts palish brown. Primaries dusky-brown, tipt with white, shafts, except the first, dusky; the tertials and tail coverts brown, edged with a lighter tint. Tail wedge-formed, the middle feathers dusky-brown, the lateral ones light brown bordered with dusky and fringed with white. Below pale rufous; abdomen, flanks, and under tail coverts nearly white, sides of the neck faintly spotted; anterior portions of the under surface of the wing rufous brown, the outer part spotted, under wing coverts pure white. Outer webs of the primaries dusky, inner half of the inner webs beautifully mottled with dark specks; secondaries also mottled at their bases. Legs bare half an inch above the knee. Middle toe 7 eights of an inch. Tarsus 1¼ inches. — In the *young* birds the tints are much lighter, the primaries more spotted, some of the inner wing coverts also mottled; all the upper plumage more broadly edged with pale buff, on the back inclining to white. The color beneath is also buff, becoming almost white on the belly and vent.

BROAD-BILLED SANDPIPER.

(*Tringa platyrhinca*, Temm. Bonap. *Numenius pygmæus*, Lath. nec Bechst. Naum. Vog. t. 10. fig. 22. [summer adult].)

Sp. Charact. — Bill longer than the head, slightly curved at the point, much depressed and reddish-grey at base; rump black; middle tail feathers longest; feet greenish-ash; tarsus 10 or 11 lines long. — *Summer* plumage varied with black and rufous; beneath pure white. *Winter* dress, ash-color, white beneath.

This species, according to Temminck and Bonaparte, common to both continents, is of very rare occurrence in the United States. In the high boreal regions of Europe and

America, it is met with in marshes, near the sea, as usual, and feeds upon small insects and worms. It breeds probably in the remote and desolate regions of the Arctic circle. It is a bird of passage, seen along the banks of rivers in the eastern parts of Europe, and is not uncommon in the spring season on the borders of lakes in Switzerland.

The length of this species is about 7 inches. The head, and hind head is of a blackish-brown, divided by two longitudinal rufous bands; line over the eyes white with brown dots; the stripe between the bill and the eye of a blackish-brown; sides of the head whitish, striped with brown; nape ash-color, striped with the same. Back and scapulars black, slenderly edged with rufous, the latter with longitudinal touches of whitish upon their outer webs. Wing coverts blackish towards their ends, the feathers tipped with reddish white. Throat, vent, and abdomen white; the sides and fore part of the neck reddish white, with small brown stripes along the shafts, all terminated with white. Some large brown spots upon the flanks; and upon the white feathers of the lateral tail coverts are some lanceolate spots. Middle tail feathers black, bordered with rufous; the lateral, and quills edged with pale grey. Bill black, but reddish-grey at base. — *Summer plumage.* In the *young*, the colors are fainter.

PURPLE SANDPIPER.

(*Tringa maritima*, Brunich. Orn. Borealis, No. 182. Gmel. Lath. Ind. Orn. ii. p. 731. sp. 18. Temm. Man. d'Orn. ii. p. 619. [ed. alt.] Bonap. Am. Orn. Mss. *T. nigricans*, Lin. Trans. iv. p. 40. t. 2. fig. 2. *T. striata*, Gmel. i. p. 672. Lath. *Striated Sandpiper*, Arct. Zool. xi. No. 383.. Lath. Syn. v. p. 176. *Selninger Sandpiper*, Lath. Syn. v. p. 173. 15? Arct. Zool. ii. p. 480.)

Sp. Charact. — Bill longer than the head, hardly curved at the point, compressed and reddish at the base; rump black; the middle tail feathers longest; feet reddish-yellow, the naked space above the knee very small. — *Summer plumage* purplish-black, varied with white and rufous; beneath whitish, with dusky spots. *Winter dress*, blackish, beneath whitish, streaked with dusky.

The Purple Sandpiper, is another of those wandering species common to the cold regions of both continents, con-

fining its visits principally to the rocky and shelving sea coasts, where it obtains in more abundance, the minute crustacea, molusca, and the fry of shell-fish, which adhere commonly to the sea weeds or Fuci in such situations; and so peculiar is this habit, that in Holland, where they are now common, they have only appeared with the existence and advancement of the artificial moles which have been built. In Norway, along the rocky shores of the Baltic, and on similar coasts of the Mediterranean, in the west of England, and around Hudson's Bay, they are common. In Russia, Siberia, and Iceland, they are also found, but less frequent. In other parts of America they are scarcely ever seen. Leaving the inclement coasts of their nativity, they proceed probably by Greenland, and migrate directly to the rocky coasts of Norway, and in the course of the winter visit, for a while, the colder parts of Europe. According to Dr. Richardson, they breed abundantly on the shores of Hudson's Bay, as well as in that coldest and most desolate of boreal climates, Melville Peninsula; laying the usual number of eggs, which are of a pyriform figure 16½ lines long, and an inch across at the larger end. They are yellowish-grey, interspersed with small irregular spots of pale hair-brown, more abundant at the larger end, and rare at the other. It is seldom seen inland, or on the borders of rivers, where its appearance is accidental; its piping note is very similar to that of other species; is not shy, often caught in snares, and the flesh accounted palatable.

Length of the Purple Sandpiper 8 inches or upwards. In the *winter plumage* the top of the head, cheeks, and the sides and fore part of the neck, blackish-grey. Throat, space around the eye, and a small spot between the eye and bill, whitish-ash; breast grey, the feathers terminated with white crescents. Back and scapulars violet black with purple reflections, the feathers tipped with dark ash. Wing coverts blackish, edged with pale ash. Lower parts white, the flanks, however, marked with large spots of dark ash, and

the lower tail coverts with blackish lanceolate spots. Rump and the two central tail feathers black, all the others ash, edged with white. Bill black, reddish at base, 1 inch 2 lines measured from above; in the female often as much as a quarter of an inch longer. Legs and feet ochre-yellow. Iris blackish. — In *old individuals* the violet and purple reflections are most lively. — In young birds the black of the plumage is duller, with pale rufous edgings, and the wing coverts broadly edged with white; with large longitudinal spots upon the flanks and abdomen. The base of the bill and feet also pale yellowish. *Summer plumage.* — Summit of the head, back, mantle and scapulars, violet black, the feathers bordered and tipt by a wide edging of pure white, or touched laterally with a tinge of rufous. Fore part of the neck, breast, and vent, marked with blackish oval and lanceolate spots upon a greyish-white ground, appearing in longitudinal stripes upon the tail coverts; middle of the abdomen pure white.

STINT, OR LITTLE SANDPIPER.

(*Tringa pusilla*, Lin. Gmel. Syst. ii. p. 681. Bechst. Naturg. Deut. iv. p. 308. Lath. Ind. ii. p. 738. 8. [excl. syn. Wilson, et Bonap.] *Little Sandpiper*, Mont. Orn. Dict. Fleming. Brit. Anim. p. 108. *Little Stint*, or *Least Snipe*, Bewick, Brit. Birds, ii. pp. 122. *Brown Sandpiper*, Brit. Zool. ii. No. 195. *Tringa Temminckii*, Leisler, Nachtr. zu Bechst. Naturg. Deut. Hept. i. p. 65, 9, 70, 73. Temm. Man. d'Orn. ii. p. 622. et Pl. Color. 41. fig. 1.)

Sp. Charact. — Bill shorter than the head, nearly straight; rump blackish; feathers of the tail graduated, one or two of the outer pure *white*. — *Summer plumage* black, varied with rufous, beneath except the breast, white. *Winter dress*, ashy-brown, beneath principally white.

This small species, the Little Stint, subsequently dedicated to one who has so well elucidated the history of these variable and protean birds, is again a common inhabitant of the Arctic circle throughout the northern hemisphere, from whence after the breeding season, accumulating in hungry flocks, they abandon for a while their natal regions, and

like the Tatarian hordes of antiquity, but harmless in their inroads, they spread themselves at the early approach of the hyperboreal winter, into different parts of the German empire; frequenting now the borders of lakes and rivers, along the course of which they pursue their emigrations, feeding as they offer, upon various kinds of small insects. Their visits in the United States are very rare; they appear equally, stragglers and wanderers upon the lake of Geneva, in Switzlerland, and in the vicinity of the Tiber at Rome; at such times they may very probably visit the interior of France, as they do occasionally Great Britain. They are not noticed, (though probably confounded with Wilson's *T. pusilla,)* in Parry and Richardson's account of the Arctic regions; their manners, as well as plumage and size, in all probability, being so very similar, that the history of one, often necessarily includes that of others. Their breeding retreats, yet unknown, are probably far to the north.

The length of this species is about 6 inches. — In the *livery of winter*, all the upper parts are dark brown, with tints of blackish-brown along the shafts of the feathers. Breast, and fore part of the neck rufous-ash. Throat, all the lower parts, and lateral coverts of the tai- white, intermediate tail coverts blackish; the 4 middle feathers ashyl brown, the others whitish, and the exterior pure white. Bill and legs brown. — In the *young of the year*, all the upper parts are blackish-ash, paler on the hind head, and, except on the last, edged with yellowish. The scapulars blackish towards their extremities; breast and sides of the neck, ash, slightly tinged with rufous. Throat, superciliary ridge, and lower parts, white; all the feathers of the tail, except the outer, tipped with pale rufous. Legs and feet greenish-brown. — *Summer plumage:* Above black, the feathers widely bordered with deep rufous. Front, fore part of the neck and breast, rufous ash, with very small longitudinal stripes of black. Throat, lower parts, and lateral tail feathers, white; central tail feathers blackish-brown, bordered with deep rufous.

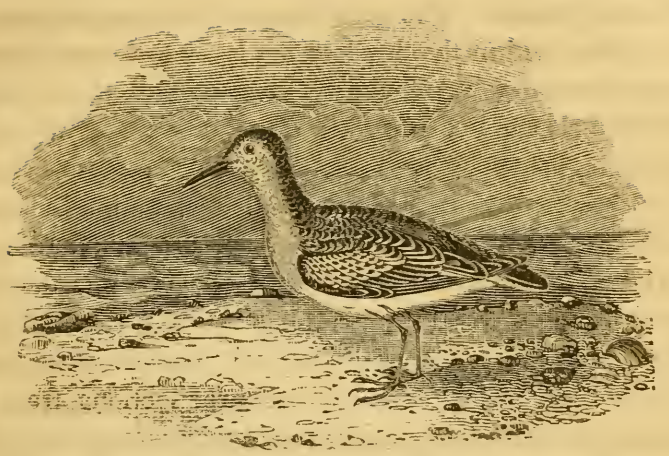
PIGMY SANDPIPER.

(*Tringa minuta*, "Leisler, Nachtr zu Bechst. Naturg. Deut. Heft. i. p. 74." Temm. ii. p. 624. Naum. Vög. t. 21. fig. 30. [young.] Bonap. Synops. No. 254. Richardson, North. Zool. ii. p. 385.)

Sp. Charact. — Bill shorter than the head, straight; rump blackish; the *outer* as well as the middle tail feathers, longer than the rest, the lateral ones dark ash, edged with white; the tarsus longer than the bill, about 10 lines. — *Summer plumage* blackish, varied with rufous, beneath, except the breast, white. *Winter dress* cinereous, below principally white.

This is another ambiguous species, scarcely distinguishable from the preceding and following, but much more extensively dispersed over the world; and, though in the breeding season immured in the desolate regions of the north, at the early approach of winter, the pigmy bands, leaving the arctic wilderness, are now seen wandering along the borders of rivers in Germany, France, Italy, Holland, and Switzerland, (being common on the lake of Geneva,) and extending their periodical voyages beyond Europe, have been killed even in Bengal in India. Though rare, they are not less widely migratory on the present continent, appearing in the autumn in abundance, on the extensive marine flats at the estuaries of Nelson's and Hayes' rivers, in the distant fur countries; afterwards visiting Nova Scotia, and usually passing at once beyond the limits of the Union, they reappear, according to Veillot, in the islands of the Antilles, spreading themselves, in all probability, with the other similar species, throughout Mexico, and along the coasts of all the warmer parts of America. Their actual breeding places, are, however, yet unknown; but their food, as usual, is very small worms, and fluviatile and marsh insects, which they commonly assemble to collect at the recess of the tides.

The Pigmy Sandpiper is about 6 inches in length. — In the adult *winter plumage* of this species, all the upper parts are cinereous, and blackish-brown along the shafts of the feathers. Sides of the breast ashy-rufous. A brown stripe between the eye and bill. Middle of the breast, throat, superciliary stripe, fore part of the neck, all the lower parts, with the exception of the lateral feathers of the upper tail coverts, white. Lateral tail feathers ashy-brown, edged with white; the 2 middle ones brown. Bill and feet brownish-black, the former 8½ lines long. — *Summer plumage:* with the summit of the head black, varied with bright rufous. Cheeks, sides of the neck, and of the breast, pale rufous, scattered with small brown angular spots. Superciliary stripe, throat, middle of the breast, and all the lower parts, white. Back, scapulars, wing coverts, rump, and the 2 middle feathers of the tail, deep black, all broadly bordered and tipt with bright rufous; the lateral upper tail coverts alone excepted, which are white, with isolated spots. All the lateral tail feathers brown-ash, but edged with white. A specimen killed in July, by Dr. Richardson, had the legs wax-yellow. —The *young of the year* very similar to those of the preceding and following species; the rufous borders of the feathers being paler, and inclining in some parts to yellow.



WILSON'S SANDPIPER.

(*Tringa* **Wilsonii*, Nobis. Little Sandpiper, (*T. pusilla,*) Wilson, (nec auct.) v. p. 32. pl. 37. fig. 4. Bonap. Synops. No. 255. *Cinclus dominicensis minor*, Briss. v. p. 222. 13. t. 25. fig. 2. Phil. Museum, No. 4138.)

Sp. Charact. — Bill much shorter than the head, straight; rump blackish; the middle tail feathers longest, the lateral ones of equal length with each other, dark ash-color, edged with white; tarsus about equal to the bill, 8 lines long. — *Summer plumage* blackish, varied with rufous, beneath, except the breast, white. *Winter dress* cinereous, beneath principally white.

This small, and nearly resident species, may be considered as the most common and abundant in America, inhabiting the shores and marshes of the whole continent, both to the north and south of the equator; retiring probably, with the inclemency of the season, indifferently, from either frigid circle, towards the warmer and more hospitable regions within the tropics. They are consequently seen, spring and autumn, in all the markets of the Union, as well as in those of the West Indies, Vera Cruz, and in the interior as far as Mexico. Captain Cook also found them on the opposite side of the continent, frequenting the shores

of Nootka Sound. The great mass of their pigmy host retire to breed within the desolate lands of the Arctic circle, where, about the 20th of May, or as soon as the snow begins to melt, and the rigors of the long and nocturnal winter relax, they are again seen to return to the shores and the swampy borders of their native lakes, in the inclement parallel of 66°. Though shy and quailing on their first arrival, with many other aërial passengers of like habits, they contribute to give an air of life and activity, to these most dreary, otherwise desolate, and inhospitable regions of the earth. Endowed with different wants and predilections from the preceding hosts, whose general livery they wear, they never seemingly diverge in their passage so far to the eastward as to visit Greenland, and the contiguous extremity of northern Europe, being unknown in the other continent; and migrating always towards the south, they have thickly peopled almost every part of the country that gave them birth.

The Peeps, as they are here called, are seen in the salt marshes around Boston, as early as the 8th of July; indeed, so seldom are they absent from us in the summer season, that they might be taken for denizens of the state, or the neighboring countries, did we not know that they repair, at an early period of the spring, to their breeding resorts in the distant north; and that, as yet, numerous and familiar as they are, the nest, and history of their incubation is wholly unknown.

When they arrive, now and then accompanied by the Semipalmated species, the air is sometimes, as it were, clouded with their flocks. Companies led from place to place, in quest of food, are seen whirling suddenly in circles, with a desultory flight, at a distance resembling a swarm of hiving bees, seeking out some object on which to settle. At this time, deceiving them by an imitation of their sharp and querulous whistle, the fowler approaches, and adds destruc-

tion to the confusion of their timorous and restless flight. Flocking together for common security, the fall of their companions, and their plaintive cry, excites so much sympathy among the harmless Peeps, that, forgeting their own safety, or not well perceiving the cause of the fatality which the gun spreads among them, they fall sometimes into such a state of confusion, as to be routed with but little effort, until the greedy sportsman is glutted with his timorous and infatuated game. When much disturbed, they, however, separate into small and wandering parties, where they are now seen gleaning their fare of larvæ, worms, minute shell-fish, and insects in the salt marshes, or on the muddy and sedgy shores of tide rivers and ponds. At such times they may be very nearly approached, betraying rather a heedless familiarity, than a timorous mistrust of their most wily enemy; and even when rudely startled, they will often return to the same place in the next instant, to pursue their lowly occupation of scooping in the mud, and hence probably originated the contemptible appellation of *humility*, by which they and some other small birds of similar habits have been distinguished. For the discovery of their food, their flexible and sensitive awl-like bills are probed into the mire, marshy soil, or wet sand, in the manner of the Snipe and Woodcock, and in this way they discover and route from their hidden retreats, the larvæ and soft worms which form a principal part of their fare. At other times, they also give chase to insects, and pursue their calling with amusing alacrity. When, at length startled, or about to join the company they have left, a sharp, short and monotonous whistle, like the word *peet*, or *péep* is uttered, and they instantly take to wing, and course along with the company they had left. On seeing the larger marsh birds feeding, as the Yellow-Shanks and others, a whirling flock of the Peeps will descend amongst them, being generally allowed to feed in quiet; and on the approach of the sports-

man, these little timorous rovers are ready to give the alarm. At first a slender *peep* is heard, which is then followed by two or three others, and presently *peet 'pip 'pip 'p'p* murmurs in a lisping whistle through the quailing ranks, as they rise swarming on the wing, and inevitably entice with them their larger but less watchful associates. Towards evening, in fine weather, the marshes almost reecho with the shrill, but rather murmuring or lisping, subdued, and querulous call of *peet*, and then a repetition of *pé-dèe, pé-dèe, dĕe dĕe*, which seems to be the collecting cry of the old birds calling together their brood, for, when assembled, the note changes into a confused murmur of *péet, péet*, attended by a short and suppressed whistle.

At most times, except in the spring, they are fat, and well flavored, though less esteemed than many of the other species, from their smallness, and an occasional sedgy taste, which deteriorates them. From the oily and deliquescent nature of the fat, which loads the cellular membrane in this hyperboreal natal family of birds, we may, perhaps, perceive a constitutional reason, why most of them thrive better, and have such a predilection for those cool and temperate climates, in which they renew their exhausted vigor, and acquire the requisite strength and energy necessary for the period of reproduction. It is indeed certain, that those stragglers, which, from age or disability, remain, as it were, hermits, secluded from the rest of the wandering host, do neither propagate, nor fatten, while thus detained through summer in the warmer climates. Of this we have already mentioned instances, in the case of straggling Curlews, killed in this vicinity by the 18th of July, a period when the main mass of the species are engaged in feeding, or just hatching their tender young.

This little Sandpiper, which we have named in honor of Wilson, (certainly not being the species first intended as

Tringa pusilla,) leaves us by the close of September, and departs from the Middle States, towards its remote hybernal retreats, in the course of the month of October.

The present species, and some others, appear, occasionally, to feed partially on vegetable substances, as well as on animals ; as I have found in their stomachs pieces apparently of *Zostera* roots, and flowers of the Marsh Plantain.

The length of this species varies from 6½ to 7½ inches ! (indeed Wilson gives only 5½ inches to the specimen he happened to measure). — *Summer plumage :* with the top of the head, base of the neck, scapulars, interscapulars, and lower row of wing coverts, dark brownish-black, bordered with chestnut, and pale yellowish-brown or rufous. Neck dusky-ash, with central dark spots. Lower part of the back, middle tail coverts, and central pair of tail feathers, black, edged with pale brown. Lateral tail coverts white, blotched with black ; lateral tail feathers darkish cinereous, faintly tipt with white. Wings dusky black, the primary coverts, posterior primaries, and secondaries tipped and edged with white. A dark line on the lores. Chin and superciliary stripe white, the latter dotted. Middle of the breast, belly, flanks, under tail coverts, inner wing coverts, and thighs pure white ; sides of the breast and lower part of the throat pale rufous-ash, faintly streaked with pale brown. Bill blackish. Legs dark brown.

KNOT, OR ASH-COLORED SANDPIPER.

(*Tringa cinerea,* Linn. Wilson, vii. p. 36. pl. 57. fig. 2. [winter dress.] *T. rufa,* Ibid. (*Red breasted Sandpiper.*) vii. p 43. pl. 57. fig. 5. [summer dress.] *T. canuta, islandica, cinerea, australis? nævia, grisea !* Gmel. Phil. Museum, No. 4050, and 4060.)

Sp. Charact. — Bill straight, scarcely longer than the head ; rump white, barred with black ; tail even. — *Summer plumage* black, varied with ferruginous, beneath dusky. *Winter dress,* pale ash color, beneath white. The *young,* dark ash, varied with black and white ; beneath white.

This large and variable species, described under such a variety of names, is again a denizen of both continents,

passing the summer or reproductive season in the utmost habitable limits of the arctic circle. Captain Parry's adventurous party found it breeding on Melville Peninsula, and in other parts of those hyperboreal regions; as on Seal Islands, probably, near Chatteux Bay, as well as in the vicinity of Hudson's Bay, down to the 55th parallel. It is also supposed to breed in Denmark, and in the Orkney Islands. They are likewise met with in Iceland, on the shores of the Caspian, and the banks of the Don and Choper in Russia, and continuing eastward towards the American continent, in that direction, are again found in Siberia, and on the other side of the boreal circle at Nootka Sound.

According to Mr. Hutchins, the Knot lays 4 eggs, on a tuft of withered grass, which are of a dun color, copiously marked with reddish spots. In Great Britain, this species chiefly confines its visits to the fens of Lincolnshire, the Isle of Ely, and a few other places. Great flocks also, in the winter season, visit the shores of Flintshire in Wales. In the fens they are taken in great numbers, in nets, by means of stuffed skins, called *stale birds*. According to Pennant, as many as fourteen dozen have been taken at once, the season being from August to November, as they migrate with the appearance of the first frosts. They are fattened and fed in the same manner as the *Ruffs*, and are by some even preferred as game. According to the account of Mr. Lewis, they sometimes even breed in England, arriving with the Ruffs, and laying a pale ferruginous egg, in size rather inferior to that of the Lapwing, marked with spots and streaks of rust-color and cinereous.

About the middle of August, flocks of the Knot, still clad in their nuptial and summer plumage, appear on the shores and in the marshes at the eastern extremity of Massachusetts Bay, particularly around Chatham and the Vin-

yard. In many, however, the moult of autumn has already commenced; but in the nearer vicinity of Boston, flocks of the young only are seen, disguised in the elegantly marked, and sober grey of winter. When not harassed they are by no means shy, allowing of a pretty near approach, while busily and sedately employed in gleaning their food along the strand, chiefly at the recess of the tide; where, in friendly company with the small Peep and other kindred species, the busy flocks are seen gleaning up the rejectamenta of the ocean, or quickly and intently probing the moist sand for worms and minute shell-fish, running nimbly before the invading surge, and profiting by what it leaves behind. They seem like a diminutive army, marshalled in rank, and spreading their animated lines, while perpetually engaged in an advance or retreat before the break of the resounding and ceaseless waves. Bred in solitudes, remote from the haunts of men, the young, in particular, seem unconscious of danger from the fowler, and a flock may sometimes be successively thinned by the gun, till the whole are nearly destroyed; when wounded, however, they take to the water and swim with ease.

On the coast of New Jersey and other parts of the Middle States, they arrive in October, and are seen along the strand in flocks, but disappear early in December, on their way south to their winter quarters within the tropics, as a mere variety, the *T. australis*, has been obtained in Cayenne. On their return, they appear on the coast of the Middle States early in May, on their way to their congenial retreats in the north; but at this time, few are to be seen compared with the accumulating flocks of autumn; while, at the same season, in Holland, they are most abundant. Some of these birds, in their rufous plumage, have been observed to linger on the neighboring coast, till the 20th of July, so that they must either have bred in the vicinity, or have

passed the season in celibacy, lingering behind the migrating flocks; a habit which appears to be more or less common with many other of the aquatic and wading birds.

The Knot, or Ash Colored Sandpiper is usually about 10 inches long, and 20 in alar extent, though specimens occur from 9 to 11 inches in length! In the *winter plumage*, the throat, and middle of the belly, is white. Front, superciliary stripe, sides and fore part of the neck, breast and flanks also white, but varied with small longitudinal brown spots, and transverse zigzag ashy-brown bands. Head, neck, back, and scapulars pale ash, with the shafts of the feathers liver-brown. Rump, and upper tail coverts white, with black curving and zigzag bars. Wing coverts cinereous, edged with white, and the shafts dusky. Tail feathers pale cinereous, fringed with white. Bill, legs and feet, black, with a tint of olive. Irids hazel. The bill in the adult, 1 inch 3 lines. In the young 1 inch 1 line. — *Tringa cinerea*, *grisea*, et *canutus*, Gmel. Syst. i. p. 673. Lath. Ind. ii. p. 733. *La maubèche Grise*. Buff. Ois. vii. p. 531. Pl. Enlum, 366.

In the *young of the year*, the ash of the back and scapulars is very dark, and all the feathers terminating in two very narrow bordering crescents, or curving edges, the upper of which is dusky and the lower white. The head longitudinally, and cleared spotted with dusky-brown. A faint tint of rufous white upon the lower part of the throat and breast; a dusky mottled band from the eye to the bill. Bill shorter and paler than in the adult. — *Tringa cinerea*, Wilson.

In the *summer plumage*, the wide superciliary stripe, throat, sides and fore part of the neck, breast, belly, and flanks bright ferruginous. Nape rufous, with small longitudinal spots. Summit of the head, back, and scapulars, black, the feathers bordered with bright rufous; oval spots of the same upon the scapulars. Abdomen white, with touches of rufous, and spots of dusky brown. Upper tail coverts white, with black curving bars and rufous spots. Tail feathers blackish-ash, fringed with white. — *Tringa islandica*, Gmel. Lath. *T. ferruginea*, Meyer. *T. rufa*, Wilson.

The *young*, *in the first moult of the spring*, have all the bright ferruginous parts of the old, of a pale rufous; the summit of the head and nape yellowish-grey, with dusky-brown spots. There is a mixture of blackish and pale rufous upon the top of the back; the

oval rufous spots on the scapulars, are very pale. Middle of the belly, and sometimes the breast varied with white feathers, which are spotted with brown. More cinereous feathers on the upper parts, and more white feathers upon the lower parts; the whole regulated by the epoch of the moult. — *Calidris*, Briss. Orn v. p. 226. *T. nœvia*, et *australis*, Gmel. Lath. *Dusky, Speckled, and Southern Sandpiper*, of Latham.

Obs. In this singular retrenchment of species, made by modern authors, I make little doubt but that several kinds of Knots are blended together. I have lately seen in the portfolio of Mr. Audubon, a drawing of a *grey Knot*, in which the dossal feathers are without crescents, and the bill and legs are of a lively *sap green*, &c.

Subgenus. — Machetes. *(Cuvier.)*

With the outer and middle toe united by a membrane as far as the first joint. The males provided with peculiar ornaments during the continuance of the breeding season.

THE RUFF.

(*Tringa pugnax*, Linn. *Pugnax*. Briss. *Philomachus*, Mœhring. *Combattant*, Buff. Ois. vii. p. 521. t. 29. 30. [male.] *T. littorea*, Gmel. i. p. 677. Lath. *T. Grenovicensis*, Ib. *T. equestris*, Ib. *Gambet*, and *Yellow-legged Sandpiper*, Mont. Orn. Dict. *Totanus cinereus*, Briss. v. p. 203. 17. 2. [female and young.] *Ruff and Reeve*, Brit. Zool. ii. No. 192. t. 69. Don. Brit. Birds, t. 19. Bewick, ii. p. 95.)

Sp. Charact. — Bill slightly curved and enlarged towards the point; legs long; tail rounded, the two middle feathers banded, the 3 lateral ones always of a single color. — The colors of individuals extremely variable. — The *male in summer*, furnished with a ruff of long feathers on the occiput and sides of the throat, and with the face naked and warty. — *Female*, *young*, and *autumnal male*, without the ruff.

The Ruff, no less than the family of Sandpipers, with which it is associated in the systems, is almost equally given to wandering, being found, according to the season, dispersed in flocks throughout the principal parts of the cold and temperate climates of the northern hemisphere. In spring

they arrive in great numbers on the coasts of Holland, Germany, Flanders and England; they are equally abundant in Sweden, occur in Denmark, Norway, Finmark and Iceland, and breed in the great desolate marshes of Siberia and Lapland, as well as in milder latitudes. According to Skioldebrand,* at Uleäborg, the capital of Ostrobothnia, they arrive in the spring, in such vast flocks, as almost to obscure the heavens, and resting on the floating ice, or on the banks of the rivers, fill the air with their confused cries; and the Ruffs, contending for their mates, appear like a pigmy army of pugilists. My friend Mr. Cooper, about three years ago, obtained a specimen of the Ruff, from the shores of Long Island. From the rarity of this occurrence, we can only consider the Ruff, on the American coasts, as an accidental straggler; and their visits are probably more common on the western than the eastern side of the continent.

The Ruffs, like most of the birds, bred in high boreal latitudes, are under the necessity of migrating to milder climates, at the approach of winter. These northern hosts therefore now spread themselves over Europe, and the contiguous continents, until the return of spring invites them again to revisit the north. Different from the birds of the preceding section of this genus, the breeding limits of the Ruff extend from the marshes of England and Holland, to the confines of the arctic circle, and while the mass of the species are driven by the vicissitudes of the seasons to perform extensive migrations for the means of support, others, residing in milder climes, scarcely proceed further, in the course of the winter, than to the sea coasts in the vicinity of their native marshes. At any rate, it appears certain, that the Ruff, unlike the Sandpiper, never wanders into

* *Skioldebrand's* Picturesque Voyage to Cape North, p. 15. (French edition.)

tropical climates. Come from where they may, they appear again in the eastern parts of Great Britain, to which their visits in that kingdon are now wholly confined, about the latter end of April, resorting to the fens of Lincolnshire, the Isle of Ely, and a few other places, which suit their peculiar habits.

In the month of May, the male, besides the red and carunculated face, acquires the curious and ornamental Ruff, which characterizes the breeding season. It is scarcely completed in this month, and begins to fall in the latter end of June. With this singular decoration, he also undergoes a complete change in the rest of his plumage, the colors are more gay and brilliant; there is then a predominance of rufous and purple tints among the others, and the plain and sombre livery of winter is laid aside. Full of ardor and jealousy, the polygamous Ruffs now seek out the company of the Reeves, and when they have chosen a breeding place, the males, so remarkable for their irritability, assemble upon some contiguous rising spot of ground, where, like so many professed duellists, erecting the ruff in a threatening attitude, they take their stand at a small distance from each other, and in their sight, combat for the society of their favorite females. This resort for amorous combat, is at length so trodden, that the turf appears bare, and this battle field thus betrays its company to their general enemy the fowler. The Ruffs feed chiefly by night, repairing to the hill of contest about the dawn of day, and so pugnacious are they at this time, that they will often leap or flirt a yard from the ground, towards some wanderer or company who happen to be passing by; and an imitation of this hostile attitude, by a rudely stuffed bird jerked at the end of a long string, is often sufficient to decoy the passengers to alight in the snare. The pugnacious disposition of the Ruff, according to Mr. Baillon, is exhibited as soon as they appear

in April, and before their arrival at their breeding place. In the marshes of Montreuil-sur-Mer, where he had often occasion to follow them, he remarks, that their first object is to pair, or rather to fight with their rivals, while the feeble screams of the females rouse and exasperate their hostility, and their battles are often long, obstinate, and sometimes bloody. The vanquished betakes himself to flight, but the cry of the first female he hears, dispels his fears, and re-awakens his courage, and he renews the conflict if another opponent appears. These skirmishes are repeated every morning and evening till their departure, in May.

As soon as the Reeves begin to lay, both those and their mates lay aside their wildness and desire of hostility, so that the whole may be caught with little effort. As the attachment of the females to their charge increases, with the progress of incubation, they become still more emboldened in its defence. At length, the period of excitement subsiding, the males, dropping their nuptial plumage, sink into tame and undistinguishable wanderers, and seceding from the Reeves and their brood, depart to their hybernal seclusion, in some distant country.

The females, associated in numbers, commence laying about the first or second week in May, and the young appear early in June. The nest is formed of grass, in a tussock of the same, in the most swampy part of the marsh. The eggs, 4 in number, very like those of the snipe, as well as the nest, are however larger, of a pale greenish hue, with a great number of small spots and points of dusky, and brown. The Reeve is so remarkably attached to her eggs, that after being caught on the nest and carried some distance, on being liberated, she went again to her eggs, as if nothing had molested her. Indeed the attachment and courage of the female for her young, seems scarcely less remarkable than the pugnaceous valor of the Ruff.

The Ruffs, esteemed as a most delicate game, are so much sought after in England, as to be almost exterminated from many of their native marshes, and sell, when fattened artificially, at from 30 shillings to two guineas the dozen. They are usually taken in large clap-nets, erected over the mounds that the Ruffs have selected for their daily combats. The fowler repairing to the spot before day-light, spreads his net, places his decoy birds, (which are either real prisoners of the species, or rudely stuffed skins,) and takes his stand at the distance of about one hundred and forty yards, or more, according to the shyness of the birds. The net suspended by poles, and commanded by a rope and pulleys, is at length pulled over its victims, and seldom fails of securing all within its reach. Although their natural food consists of worms, and insects of the marshes where they dwell, when confined they are fed and fattened on milk and soaked bread, hempseed, sometimes boiled wheat, and to hasten the process sugar is frequently added to the rest of their fare. As soon as sufficiently fattened, they are killed and dressed in the manner of Woodcocks. If this unnatural fare be long continued, they sicken and pine away, as it were by the surfeit of gluttony. It is a curious fact, related of the Curlew, *(Numenius arquata,)* by Rennie, that when fed on worms, thrown into milk, to accustom him to the unnatural and fattening diet of the Ruff, he for some time, took out the worms and carefully washed them in water, before he would consent to swallow them

The Ruff is about 12 inches in length. In its *autumnal and winter plumage,* the face is covered with feathers ; and the occiput and neck clothed with short plumes. The throat, fore part of the neck, belly, and other lower parts white. Breast rufous, with dark brown spots. The upper plumage, *usually* brown, covered with black spots, with rufous borders. The longest wing coverts, and the middle feathers of the tail banded with brown, black, and rufous. Bill long, and brownish. Legs and feet yellowish, tinted with greenish, brown, or

reddish. Iris brown. — *Male.* The *female* is one third smaller, the plumage more cinereous, and the fore part of the neck is rarely pure white. The bill black. The feet darker. — *Tringa variegata*, Brunn. Orn. Boreal. p. 54.

Summer and nuptial plumage of the male. With the face naked, and covered with yellow or red warts. The occiput decorated with long feathers; a large ruff composed of a range of showy feathers ornaments the throat. These long feathers are ordinarily contrasted with the rest of the plumage; which is usually varied with rufous, cinereous, black, brown, white, and yellowish; the feathers of the ruff are also almost infinitely varied. The bill yellowish-orange. The ruff varies in size according to the age of individuals. The female or *Reeve*, is destitute of the ruff. At this season, the upper parts are of a cinereous brown, mingled with some feathers of a black, with reflections like polished steel. Throat and breast the same, but paler. The vent and belly white. Bill black. Legs and feet yellowish or greenish.

The *young of the year*, have a near resemblance to the *females in winter dress*, but the tints of the fore part of the neck and breast are of a dull rufous-ash. The feathers of the head, back, scapulars, and large wing coverts are blackish-brown, with wide rufous and yellowish borders; lesser wing coverts edged with rufous white. Throat, vent, and abdomen pure white. Bill black. Legs greenish. It is then, *Tringa littorea*, Gmel. Lath. *T. grenovicensis*, Ib. *Totanus cinereus*, Briss. *Le Chevalier varié*, Buff. Ois. vii. p. 507. Pl. Enlum, 300. *Gambetta tale*, Storr. deg. ucc. v. p. 465.

Subgenus. — *Heteropoda.

With the bill straight, rather enlarged and punctate at the extremity: the tarsus of moderate length, and the 3 anterior toes all connected at base by a membrane, the outer to the middle toe as far as the first articulation. — Peculiar to America.

SEMIPALMATED SANDPIPER.

(*Tringa semipalmata*, Wilson, vii. p. 131. pl. 63. fig. 4. [young.] Bonap. Synops. No. 246. Richardson, North. Zool. ii. p. 381. Phil. Museum. No. 4023.)

Sp. Charact. — Bill shorter than the head, straight, somewhat depressed and enlarged towards the point; rump blackish; middle tail feathers longest. — *Summer plumage* varied with blackish, olive-grey and pale rufous; beneath, except the breast, white; *Winter dress*, dark cinereous, beneath principally white.

Obs. Scarcely distinguishable from *T. Wilsonii*, or the Peep, except by the feet, bill, and greyer color of the summer plumage.

Commonly associated with other species of the same size, plumage, and habits, it is not easy to offer any remark concerning it which can be considered as exclusive. It is spread equally over the North American continent, from the confines of the arctic circle, probably to the West Indies. According to Wilson it arrives and departs with the Sanderling, and associates with the Dunlin, when in its autumnal dress, in this case forming flocks apart from each other; but with the Peep they are sometimes so blended as to be unknown till brought to the ground. Many, like the other species, take even an interior route, towards their winter retreats, and are consequently seen on the shores of the great inland lakes of the St. Lawrence. Wilson saw a flock of them in September, in Burlington Bay, on Lake Champlain. In the salt marshes near Boston, they are not uncommon in small numbers, but some seasons are seen whirling about wildly in large and separate flocks, and so timorous and roving as to give the alarm to the other larger birds associated around them. Along the shores of New Jersey, they are numerous; and Mr. Hutchins, who described this species, without publishing it, as early as the year 1770, says, that they arrive at Severn river, in the fur countries, in great numbers about

the middle of May, and make a nest of withered grass, early in June, laying 4 or 5 white eggs, spotted with black or dusky brown. Towards autumn, it utters a chirping call, and in September they retire to the southward, soon after which they are seen in Massachusetts, on most of the muddy shores, which they frequent at the recess of the tide, dwelling more exclusively in the immediate vicinity of the ocean than the Peep. When dispersed or alarmed they give a quailing call, like *'to-weet, 'to-weet.* At other times, when startled, they utter a shrill clattering whistle, and are always noisy and querulous. Like the small land birds they may sometimes be seen washing themselves, with great satisfaction, in the salt pools and plashes, and when wounded swim with considerable vigor. While here they feed upon diminutive coleoptera, very small shrimps, minute shell-fish, which they probe out of the sand, some molusca, and occasionally the roots of the *Zostera marina*; they also swallow considerable quantities of small gravel, and becoming very fat, are nearly as well flavored as the Snipe, being very superior to the other small species.

The length of the Semipalmated Sandpiper is from 5½ to 6½ inches; the alar extent 10 to 12. Bill black, from ¾ to an inch long, thick at the base, the ridge of the upper mandible flattened towards its extremity; the tip somewhat enlarged, and distinctly pitted, as in the Snipe. Crown and body above dusky-brown, the feathers edged with very pale rufous, and olive-grey, inclining often to white. Front, line over the eye, and the sides of the neck grey. Tail and wings nearly of an equal length when folded. Primaries dusky-brown, the outermost shafted with white, the greater coverts tipped with white, sides of the rump white. Tertiaries almost entirely the length of the wings. Beneath wholly white, except the breast and front of the neck, which is greyish and streaked with a few dusky pointed spots. Legs and feet very dusky-olive. Wilson's figure represents a *young* bird, though I have never seen one wholly white below. — *Winter* plumage brownish-grey; beneath white, spots on the breast fainter.

STILT-LEGGED SANDPIPERS.

Subgenus. — Hemipalma, *(Bonap.)*

With the bill much longer than the head, and partly arched, dilated and studded with minute tubercles at tip. *Feet*, the tarsus very long, and the 3 anterior toes usually connected by a membrane as far as the first articulation.

Probably a genus, peculiar to America, consisting of about 3 species, for the most part residing within the high boreal latitudes. In the length, curvature of the bill, and peculiar markings of the plumage, these birds appear to be intermediately allied to the Curlew *(Numenius)* and Ruff, *(Machetes)*; but their long and very naked legs, and partly palmated feet are wholly distinct from either. In their habits and manners they agree generally with the ordinary Sandpipers, but the tumid and sensitive extremity of the bill, as in the Snipes, indicates a greater delicacy in the selection of their food, which is very probably often worms and moluscous animals.

LONG LEGGED SANDPIPER.

(*Tringa himantopus*, Bonap. Synops. No. 245. et Am. Orn. iv. p. 89. pl. 25. fig. 3.)

Sp. Charact. — Below whitish, banded with dusky-brown; tarsus about the length of the bill; tail somewhat doubly notched; auriculars pale ferruginous; rump banded with black and white; tail grey, without bands, the middle feathers longest; legs very long and black, webs of the toes equal. — *Winter plumage* unknown.

The discovery of this very singular bird is due to the Prince of Musignano, and Mr. Cooper, who, in the month of July, met with a flock of them flying, near a small fresh water pond at Long Branch. The only second specimen, as yet obtained, was one shot in the month of May, on the south shore of Long Island, in the possession of the latter gentleman. The discovery of a bird of this kind, decidedly, as

we believe, a summer resident in the high boreal latitudes, at this season of the year, can only be accounted for on the supposition of their being driven south by some storm or uncommon spell of severe and cold weather, as they could not have bred, at so early a period of the summer. They might probably, however, have been barren birds, who had never proceeded to the north that season. In the month of May, it is easy to suppose the occurrence of a straggler on the way to its natal regions.

The length of this species is about 9½ inches. The bill black, subarched, about 1 inch and 8 lines long. Wings 5½ inches long. The crown grey, mixed with whitish and blackish, the feathers with slight ferruginous margins. A broad whitish line over the eye; lores dusky; auriculars pale rust color. The neck above and its sides mixed with whitish. Back and scapulars brownish black, tipt with grey, and marked with pale rusty. Rump grey, the upper tail coverts white, with black bands. Throat soiled white, faintly dotted with blackish. *Under plumage*, including the tail coverts whitish, each feather banded with blackish, with one of the bands terminal. Wing coverts dusky-brown, with paler margins; the under coverts marbled with dusky-brown and whitish. Primaries blackish-brown, shaft of the first white; secondaries pale dusky, edged with whitish. Tail grey, even, 2 inches long, the 2 middle feathers projecting beyond the rest; the outer on each side is also somewhat longer than the others; the whole are pale dusky with white shafts, the white spreading somewhat along the middle, but particularly at the base, where all the feathers, but the middle ones, are white, as well as the 2 outer likewise on the greater part of their inner vanes. The feet black; legs very long: naked space on the tibia 1¼ inches. Tarsus 1¾ inches. Middle toe about an inch, nearly, without the nail. All the fore toes are equally half-webbed.

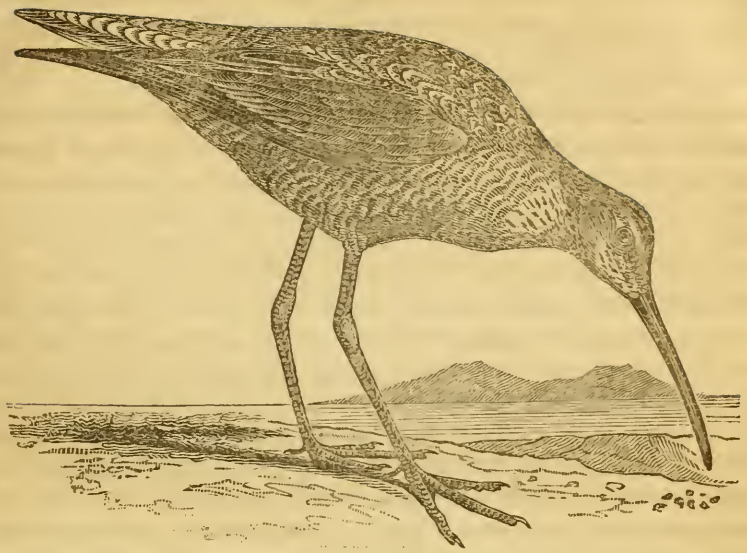
AUDUBON'S STILT SANDPIPER.

(*Tringa *Audubonii. T. himantopus?* Richardson and Swainson, North. Zool. ii. p. 380.)

Sp. Charact. — Below brownish-grey, and without spots or bars; tarsus wax-yellow, longer than the bill; lateral tail feathers equal, all without bars; tail coverts spotted; webs of the toes equal with each other.—*Winter plumage* unknown.

According to Dr. Richardson, this species was not uncommon in the month of July, on the flats at the outlet of Haye's river, in the fur countries of Hudson's Bay, in the latitude of 57°, where no doubt they breed, and probably pursue an inland route to their winter quarters in the warmer parts of the continent. We have ventured to consider this bird as a distinct species from the preceding, according to the description given of it by Dr. Richardson, and as such, feel gratified in having the opportunity of dedicating it to the memory of the indefatigable Audubon whose services in illustrating the Ornithology of North America have been so preeminent.

Length of the species 9½ inches; of the bill 1 inch 8 lines. Alar extent 17 inches. The length of the thigh, tarsus and toes together 5½ inches (being fully an inch more than in the same parts of *T. Douglasii.)* Summit of the head, dorsal plumage, and lesser wing coverts black, edged with rufous and brownish white. Neck grey. Primaries, and central tail feathers, clove-brown; lateral tail feathers, pale hair-brown; shafts of the primaries, margins of the secondaries, and of the lateral tail feathers, and stripes on the shafts of the latter whitish. Tail coverts, greyish white, with a few brown spots. Breast, brownish-grey; belly brownish-white. Inner wing coverts, smoke-grey and white. Legs wax-yellow. Bill black, much compressed at the base; its ridge rounded for two-thirds of its length, where it is depressed or flattened, its width being slightly increased close to the point. The ends of both mandibles, closely studded with minute, smooth, soft, flattened tubercles, like polished shagreen. Central tail feathers, exceeding the others a little in length. Lateral toes equal. Webs of the toes both nearly or quite equal with each other, extending so far as to include the first phalanx.



DOUGLAS'S STILT SANDPIPER.

(*Tringa Douglasii*, Swainson and Richardson, North. Zool. 2. p. 379. pl. 66. [adult in summer plumage].)

Sp. Charact. — Below brownish-white, banded with dusky-brown; tarsus about the length of the bill; tail somewhat doubly-notched; ear feathers chestnut colored; rump banded with black and white, and the middle tail feathers with ferruginous; legs long, olive color, the inner web of the toes smaller. — *Winter plumage* unknown.

According to Dr. Richardson, this species is not uncommon in the fur countries of Upper Canada, to the 60th parallel, and perhaps still further north. It exhibits the usual habits of the genus *Tringa*, frequents the interior marshes in the breeding season, and in the autumn resorts in flocks to the flat shores of Hudson's Bay, previous to taking its departure for the south.

The length of this species is said to be 10 inches 3 lines; of the bill above as well as from the rictus 1 inch 7½ lines: the tarsus 1

inch 7½ lines; the naked thigh 1 inch 1 line. The length of the inner web which connects the toes 2 lines, but that of the outer web, 3½ lines or nearly double. — In the *adult of summer*, the top of the head, scapulars, interscapulars and tertials blackish-brown, edged round the tips with brownish-white and ferruginous. Wing coverts and secondaries hair-brown; the latter, together with their greater coverts, slightly edged with white. Primaries blackish-brown; shafts of the first, and of the secondaries brownish-white. Neck, rump, tail coverts, and whole *under plumage*, brownish-white. The chin, sides of the head and neck, marked with central spots or streaks of liver-brown, largest on the back of the neck; the rump, tail coverts, and under plumage barred with the same, more distinctly on the flanks, and most imperfectly on the middle of the belly. Chestnut colored bands on the lores, above the eye, and on the ears. Central pair of *tail feathers* blackish-brown, striped, tipped, and barred with ferruginous: lateral tail feathers broccoli-brown, striped on the shafts and inner webs with white. Bill black, long and slender, moderately high at the base, slightly arched towards the point, which is depressed, conspicuously dilated, and *minutely pitted* when dry. Fore toes webbed; the inner web smallest, being half the length of the first joint of the inner toe.

TOTANUS. *(Bechst. Temm.)*

In these birds, so nearly related to the Snipes and Sandpipers, the BILL is of moderate length, straight, or a little recurved, flexible at base, compressed throughout its whole length, hard, acute, a little curved at the point, and with both mandibles furrowed each side to the middle. NOSTRILS in the furrows, basal, lateral, linear, pervious. FEET 4-toed; tarsus long and slender; a considerable naked space above the knee; outer toe united to the middle one by a membrane as far as the first, and sometimes to the second joint; hind toe short, slender, much elevated, touching the ground at tip. *Wings*, when folded, about as long as the tail; the 1st primary longest. *Tail*, generally short, composed of 12 feathers.

The plumage of the sexes is alike, but the female is somewhat larger. The *young* differ little from the adult in its winter livery. They moult twice in the year; the summer and winter plumage

often differing merely in the distribution of the spots and stripes with which it is varied; frequently, only in the purity of its shades in summer compared with that of winter.

The birds of this genus (*Chevaliers* of the French) like the preceding, to which they are intimately allied, associate in flocks, though some species appear inclined to lead a solitary life. They generally prefer the borders of lakes, rivers, and fresh water marshes, to the immediate precincts of the sea, or only visit the strand in a desultory manner; they also wade deeply, for which they are provided with very long legs. They feed on insects, worms, small shell-fish, and moluscous animals, which they often seek on dry ground, or on the gravelly banks of rivers, by means of their hard, pinching, and less sensitive bills. They migrate periodically with the season of the year, but usually inhabit more temperate regions than the true Sandpipers, and commonly breed in numbers together in the same meadow or marsh. They are spread all over the earth, even some of the same species are cosmopolites. Like the preceding, the races resemble each other so much as to render distinctions sometimes ambiguous. In addition to their other affinities, they are closely allied to the Snipe and the Godwit, and particularly to *Tringa* by the Ruff.

Subgenus. — Catoptrophorus, *(Bonap.)*

With the bill straight, stout, solid almost its whole length, furrowed only at the base, the groove of the lower mandible obliterated. The fore toes all connected at base by a membrane. — The female is conspicuously larger. These birds not only wade, but occasionally swim.

SEMIPALMATED SNIPE, OR WILLET.

(*Totanus semipalmatus*, TEMM. BONAP. RICHARD. North. Zool. ii. p. 388. pl. 67. *Scolopax semipalmata*, GMEL. LATH. WILSON, vii. p. 27. pl. 56. fig. 3. [summer dress.] *Glottis semipalmata*, NILS. Orn. Suec. ii. p. 55. Phil. Museum, No. 3942.)

SP. CHARACT. — Rump white; lower wing coverts black; quills white for two-thirds of their length from the base. — *Summer plumage*, pale brownish, varied with black and whitish; beneath white, spotted with dusky. *Winter dress*, ashy-brown, beneath principally white.

THE Willet, as this well known and large species is called, inhabits almost every part of the United States, from the coast of Florida to the distant shores and saline lakes in the vicinity of the Saskatchewan, up to the 56th parallel of latitude, where, as they pass the summer, they no doubt propagate there, as well as in the Middle States of the Union. Their appearance in the north of Europe, is merely accidental, like the visit of the Ruff in America, which has, indeed, no better claim in our Fauna, than that of the Willet in Europe, both being stragglers from their

native abodes and ordinary migrating circuits. From the scarcity of this species on the shores of Massachusetts Bay, it is more than probable, that their northern migrations are made chiefly up the great valley of the Mississippi; and they have been seen, in the spring, by Mr. Say, near Engineer Cantonment, on the bank of the Missouri. A few straggling families or flocks of the young, are occasionally seen, about the middle of August, on the muddy flats of Cohasset beach; but they never breed in this part of New England, though nests are found in the vicinity of New Bedford.

The Willet probably passes the winter within the tropics, or along the extensive shores of the Mexican Gulf. About the middle of March, however, their lively vociferations of *pill-will-willet*, *pill-will-willet*, begin commonly to be heard in all the marshes of the sea islands of Georgia and South Carolina. In the Middle States they arrive about the 15th of April, or sometimes later, according to the season; and, from that period to the close of July, their loud and shrill cries, audible for half a mile, are heard incessantly throughout the marshes where they now reside. Towards the close of May, the Willets begin to lay. Their nests, at some distance from the strand, are made in the sedge of the salt meadows, composed of wet rushes and coarse grass placed in a slight excavation in the tump; and during the period of incubation, as with some other marsh birds, the sides of the nest are gradually raised to the height of five or six inches. The eggs about 4, are very thick at the larger end, and tapering at the opposite, two-thirds the size of a common hen's egg, (measuring over 2 inches in length, by $1\frac{1}{2}$ in the greatest breadth;) they are of a pale bright greenish-olive (sometimes darker), largely blotched and touched with irregular spots of a bright blackish-brown of two shades, mixed with a few other smaller touches of a paler tint, the

whole most numerous at the great end. According to Wilson, the eggs are very palatable as food. The young covered with a grey colored down, run off as soon as freed from the shell, and are led about by the mother in quest of their proper food, while the vociferous male keeps careful watch for their safety. On entering these breeding places, the spectator is beset by the Willets, flying wildly around, and skimming over his head, with the clamorous cry of '*pill-will-willet*,' accompanied at times, when much excited and alarmed by an approach to the nest, with a loud clicking note, in the manner of the Avocet. Exhausted with their vigilant and defensive exertions, at times, they utter a sad and plaintive note, and occasionally alighting, slowly close their long, silvery and particolored wings, as if acting a part to solicit compassion. Among their most common and piratical enemies, are the Crows, who roam over the marshes in quest of eggs, and as soon as they appear are attacked by the Willets in united numbers, who with loud vociferations pursue them off the ground. During the term of incubation, the female, fatigued with her task, and occasionally leaving her eggs to the influence of the ardent sun, resorts to the shore, and deeply wading, washes and dresses her plumage, frequently emerging, and performing her ablutions with an air of peculiar satisfaction. Indeed the Willets generally wade more than most of their tribe; and when disabled from flying by a wound, they take to the water without hesitation, and swim with apparent ease. The peculiar note which characterizes and gives name to this remarkable species of Chevalier, is only uttered by the adults; and the call of the young, when associated by themselves, appears to be a kind of shrill and plaintive whistle, almost like that of the Curlew. The Willet subsists chiefly on small shell-fish, aquatic insects, their larvæ, and molusca, in quest of which it constantly resorts to the muddy shores

and estuaries at low water. In the fall, when the flocks of young birds associate together, which may be easily known by the greyness of their plumage, they are selected by the gunners in preference to the older and darker birds, being tender, fat, and fine-flavored game. In the months of October and November they gradually pass on to their winter quarters in the warmer parts of the continent. Transient flocks of the young, bred in higher latitudes, visit the shores of Cohasset by the middle of August, but timorous, wild, and wandering, they soon hasten to rejoin the host they had accidentally forsaken.

The length of the Willet is about 15½ inches; length of the bill to the rictus 2½ inches, much shorter in the young bird of the season; tarsus 2 inches 8 lines. — In the *summer plumage* the general color above is brownish-grey, striped faintly on the neck, more conspicuously on the head and back, with blackish-brown, the scapulars, tertiaries and their coverts irregularly barred with the same. Tail coverts white. Tail even, whitish, thickly mottled with pale ashy-brown, that color forming the ground of the central feathers, which are barred with dusky-brown towards their extremities. Spurious wing, primary coverts, a great portion of the anterior extremities of the primaries, the axillary feathers, and under wing coverts, black, with a shade of brown; the remaining lower and longer portion of the primaries, and the upper row of under wing coverts, white; the posterior primaries tipt with the same; secondaries and the outer webs of their greater coverts, white, marbled with dusky. Wings rather longer than the tail. The lores, with a spotted liver-brown streak, bounded above by a spotted white one. Eye-lids, chin, belly, and vent, white; the rest of the *under plumage* brownish-white, streaked on the throat, and transversely barred, or waved on the breast, shoulders, flanks, and under tail coverts, with clove-brown, the bars pointed in the middle. — *Female* colored like the male, but an inch longer. Legs and feet dark lead color, the soles inclining to olive; the toes broadly margined with a sort of continuation of the web. Iris hazle.

Winter dress with fainter spots on the upper plumage, and without the dark waving transverse bars below, only the fore part of the neck and breast of a cinereous tint marked with small brown

streaks. — In *the young of the year* the cinereous tint prevails above, with a tint of hair-brown on the summit of the head, back and scapulars; the spots ill defined, and wanting about the head, neck and breast; the two latter cinereous, very pale on the sides of the neck. Rump ash; tail coverts white. Scapulars and tertials edged with brownish-white indented spots, with indications of dusky-brown bars. Below, except the lower part of the neck, wholly white.

Subgenus. — TOTANUS.

BILL slender, hard, furrowed nearly to the middle. Inner toe cleft.

TELL-TALE, OR GREATER YELLOW-SHANKS.

(*Totanus vociferus*, SABINE. *T. melanoleucus*, VIEILL. BONAP. Syn. No. 260. *Scolopax vociferus*, WILSON, vii. p. 57. pl. 58. fig. 5. [summer dress.] *Spotted Snipe*, PENNANT, Arct. Zool. ii. p. 467. No. 374. Phil. Museum, No. 3940.)

SP. CHARACT. — Blackish-brown, spotted with black and white; rump partly white; tail dusky white, barred with brown; legs and feet yellow; bill black, slightly recurved; tarsus about the length of the bill. Length of the individual about 14 inches.

THE Greater Yellow-Shanks or Tell-Tale, so remarkable for its noise and vigilance, arrives on the coast of the Middle States, early in April, and proceeding principally by an inland route, is seen in abundance as far north as the plains of the Saskatchewan; where, no doubt, in those desolate and secluded marshes, far from the prying eye and persecuting hand of man, the principal part of the species, pass the period of reproduction, reappearing in the cooler parts of the Union towards the close of August; yet so extensive is the breeding range of the Tell-Tale, that many continue to occupy the marshes of the Middle States, until the ap-

proach of cold weather, in the month of November, breeding in their favorite resorts, on the borders of bogs, securing the nest in a tuft of rank grass or sedge, and laying 4 eggs, of a dingy white, irregularly marked with spots of dark brown or black, and which, according to Mr. Hutchins, are large for the size of the bird, and of similar markings in their northern breeding places. In Massachusetts, as with many other birds, the present is so uncommon a species, that it may be considered almost as a straggler, arriving in autumn, with the few flocks, who touch at the coast of Labrador and Newfoundland, confining their visits, with Curlews, Godwits, and many other wading birds, chiefly to the eastern extremity of Cape Cod and Cape Ann, where multitudes of these birds transiently assemble, in spring and autumn, (particularly in the vicinity of Chatham and Ipswich) and of which but few penetrate inland, their next visit being usually to the shores of Long Island in their further progress to the south. In the spring, however, avoiding the long continued eastwardly storms of this climate, they are led to go inland by a more favorable route; and have been seen at this season, by Mr. Say, on the banks of the Missouri, on their way to the interior of the continent.

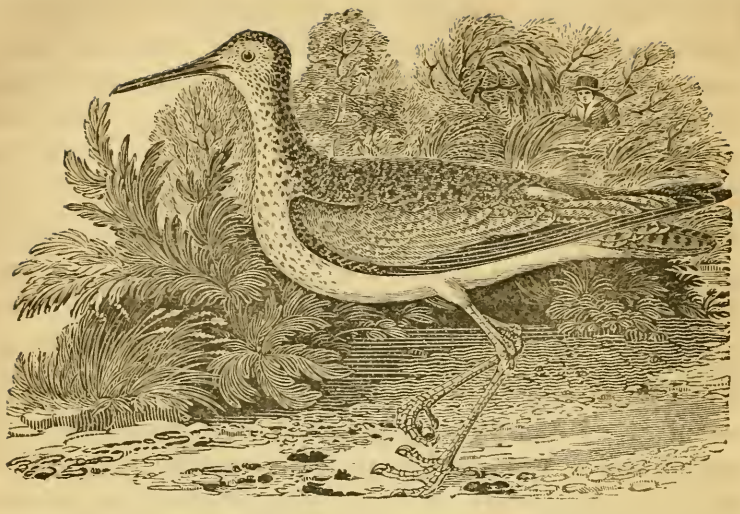
The vociferous vigilance of the Tell-Tale, has justly stigmatized him with the present name, for no sooner does the gunner appear, than his loud, and shrill whistle of about four rapidly repeated notes, is instantly heard, as he mounts on wing, and proves generally so good a warning to all the rest of his feathered neighbors, and particularly the vigilant ducks, that the whole, to the frequent disappointment of the fowler, at once accompany their faithful and officious sentinel. At times, indeed, without any particular motive to excitement, except perhaps that of hilarity and vigor, they are seen to rise high in the air, chattering so loudly, as still to be heard when beyond the reach of the eye. From

their note they are called by the Cree Indians of Hudson's Bay *Sasashew*, and in this part of New England, they are usually known by the name of the Winter Yellow-Leg.

The Tell-Tale, after taking up his summer residence in the marshes, is no longer gregarious, until the return of winter; when, with the addition of the young, they rove about in small parties until their final departure for the south. Like most of the species, they frequent watery bogs, and the muddy margins of creeks and inlets, where they are often seen in quest of food, or standing in a watchful posture, alternately balancing themselves, raising or lowering the head and tail, and on the least appearance of danger or surprise, which they readily perceive, from the elevation of their legs, and the open places in which they feed, their loud whistle is instantly heard, and the timorous and less watchful flocks are again in motion. They sometimes penetrate, singly or in small numbers, some way inland along the muddy shores of estuaries and rivers to the extent of tide water. Although they live principally upon the insects and larvæ they find in the marshes, at a later period they also pay occasional visits to the strand in quest of molusca, small shrimps, and minute shell-fish, the ordinary fare of the true Sandpipers. In the fall, when fat, their flesh is highly esteemed, and they are frequently brought to market.

The length of the Tell-Tale is about 14 inches, (the *female* about an inch and a half longer.) Bill black, the length 2 inches 1 or 2 lines measured from above. Tarsus 2 inches 6 to 8 lines. The legs wax-yellow: a short web between the inner and middle toes; outer web deeply sinuated; the toes, all furnished with a narrow membraneous margin. — *Upper plumage* blackish-brown, with faint violet reflections, bordered with greyish-white on the head, neck, rump, and two upper rows of lesser wing-coverts; the fore part of the back, scapulars, lesser quills, intermediate and greater coverts, marked with rather large marginal whitish spots. Primaries and their coverts blackish; shaft of the first quill white. Tail barred

alternately with dusky-brown and soiled or brownish-white, the ground of the under feathers being nearly pure white. Part of the upper and under tail coverts, sides of the rump, and *under plumage* white. The neck streaked with liver-brown; flanks, under wing and tail coverts, barred with the same; the bars on the latter (probably females,) nearly obsolete on some specimens. The breast also sparingly and broadly barred with dusky-brown. The lowest row of tail coverts barred with dusky-brown and white. — *Autumnal* or *winter* plumage above ashy-brown, the larger feathers (scapulars, greater wing coverts, &c.) margined with rows of brownish-white and dusky spots, on the lower part of the neck, the spots small and almost exclusively greyish-white. White feathers of the breast minutely mottled with zig-zag lines. — *Young female in summer plumage.* Length 15½ inches. Bill one line short of 2 inches. Scapulars, tertials and larger wing coverts with rufous white indented spots, and marginal bars of dusky-brown on the tertials, less distinct on the other large feathers. Beneath, as in the adult, but the white space on the chin and throat more pure and extensive. Long axillary feathers with very delicate pale dusky zig-zag bars.



YELLOW-SHANKS TATLER.

(*Totanus flavipes*, Vieill. Bonap. Syn. No. 261. *Scolopax flavipes*, Wilson, vii. p. 55. pl. 58. fig. 4. Yellow-Shanks Snipe, Penn. Arct. Zool. ii. p. 468. No. 378. Phil. Museum, No. 3938.)

Sp. Charact. — Blackish-brown, spotted with black and white; rump partly white; tail dusky-white, barred with brown; legs and feet yellow; bill black, slightly recurved; tarsus longer than the bill. Length of the individual about 10 inches (*male.*) *Female* 1½ inches longer. — *Winter plumage* brownish-ash; the throat white, and thinly mottled.

The Yellow-Shanks, in certain situations, may be considered as the most common bird of the family in America. Its summer residence, or breeding station, even extends from the Middle States to the northern extremity of the continent, where it is seen, solitary or in pairs, on the banks of rivers, lakes, or in marshes, in every situation contiguous to the ocean. And though the young and old are found throughout the warm season of the year in so many places, the nest and eggs are yet entirely unknown. Calculating from the first appearance of the brood abroad, they commence laying

by the middle of June, and are seen in this neighborhood at that season. It resides chiefly in the salt marshes, and frequents low flats and estuaries, at the ebb of the tide, wading in the mud, in quest of worms, insects, and other small marine and fluviatile animals. They seldom leave these maritime situations, except driven from the coast by storms, when they may occasionally be seen in low and wet meadows, as far inland as the extent of tide-water. The Yellow-Shanks has a sharp whistle of three or four short notes, which it repeats, when alarmed and when flying, and sometimes utters a simple, low, and rather hoarse call, which passes from one to the other, at the moment of rising on the wing. It is very impatient of any intrusion on its haunts, and thus often betraying, like the preceding, the approach of the sportsman to the less vigilant of the feathered tribes, by flying around his head, with hanging legs and drooping wings, uttering its incessant and querulous cries.

How far they proceed to the south in the course of the winter, is yet unknown; they, however, I believe, leave the boundaries of the Union. At the approach of winter, previous to their departure for the south, they are observed to collect in small flocks, and halt for a time on the shores of Hudson's Bay. Accumulated numbers are now also seen to visit New England, though many probably pass on to their hybernal retreats by an inland route, like the preceding, having indeed been seen in the spring, on the shores of the Missouri, in particular situations, by Mr. Say. They also seem to reside, no less in the interior than on the coast, as they were observed on the shores of Red River of Lake Winipique (lat. 49°,) on the 11th of August, by the same gentleman; thus subsisting indifferently on the productions of fresh as well as salt water. At the approach of autumn small flocks, here also, accompany the Upland Plover *(Totanus Bartramius,)* flying high, and whistling, as they proceed inland to feed, but

returning again towards the marshes of the sea coast to roost. Sometimes, and perhaps more commonly at the approach of stormy weather, they are seen in small restless bands, roving over the salt marshes, and tacking and turning along the meanders of the river, now crossing then returning, a moment alighting, the next on the wing; they then spread out and reconnoitre, again closing in a loose phalanx, the glittering of their wings and snow white tails, are seen conspicuous as they mount into the higher regions of the air; and now intent on some more distant excursion, they rise, whistling on their way, high over the village spire, and beyond the reach of danger, pursue their way to some other clime, or to explore new marshes and visit other coasts more productive of their favorite fare. While skimming along the surface of the neighboring river, I have been amused by the sociability of these wandering waders. As they course steadily along, the party, never very numerous, would be joined by some straggling Peeps, who all in unison pursue their route together like common wanderers, or travellers, pleased and defended by the access of any company.

Being a plentiful species, particularly in the latter end of summer, when the young begin to flock, it is frequent in the markets of Boston, New York, Philadelphia and Baltimore, with us more particularly abundant about the middle of August, and being then fat, and well flavored, are esteemed for the table. From the sympathy of the species for each other, they may be shot with facility, if the sportsman, on the first discharge, permits the wounded birds to flutter about, as in that case, the flock will usually make a circuit, and alighting repeatedly at the cries of their wounded companions, the greater part of them may be shot down before they perceive the real nature of their danger. Like Plovers, they can also be called around the sportsman by an imitation of their whistle.

The length of the Yellow-Shanks, (or Yellow-Legs, as it is here called) is about 10 inches or a little under. The bill is black, 1 inch 4 lines measured from above; the tarsus 2 inches. Iris dark hazel. Summit of the head and neck blackish-brown, edged with greyish-white. Fore part of the back, scapulars, greater coverts, and tertiaries, blotched and barred with blackish-brown, and marked with marginal triangular spots of brownish-white. Lower part of the back, lesser coverts, and secondaries, clove-brown, narrowly edged round with white. Primaries blackish-brown; the shaft of the first, white. Two central pairs of tail feathers whitish-brown, the lateral ones and the coverts white; the whole barred with blackish-brown, but less distinctly on the coverts of the tail. Eye stripe, chin, and *under plumage*, white, streaked on the neck, and barred on the sides of the breast and belly with blackish-brown. — *(male.)* The *winter plumage*, inclining to ash-color, as in the former.

THE RED-SHANK, OR GAMBET.

(*Totanus calidris*, Bechst. Temm. ii. p. 643. *Scolopax calidris*, Gmel. Lath. Ind. ii. p. 722. sp. 25. *Tringa gambetta*, Gmel. Syst. i. p. 671. sp. 3. *Totanus nævius*, Briss. Lath. Ind. ii. p. 728. sp. 9. *Chevalier aux pieds rouges, ou la Gambette*, Buff. Ois. vii. p. 513. t. 28. Pl. Enlum. 845. [summer plumage.] *Red-shank*, Pen. Arct. Zool. ii. p. 172. No. 377.)

Sp. Charact. — Cinereous olive-brown, spotted and barred with black; secondaries white for half their length; rump white; tail dusky-white, barred with blackish-brown; legs, feet, and the lower half of the bill bright red. — *Winter plumage* mostly ashy-brown; below, except the throat and breast, white; the feet pale red. *Young* above, dusky-brown, the feathers principally bordered and indented with yellowish-white. Bill livid at the base, brown towards the point; feet and legs orange yellow.

The Red-Shank or Gambet, seems to be from its rarity little more than a mere straggler in the American continent, as it is also probably in the marshes of China and Bengal. It is common to many parts of Europe, is particularly frequent in Holland, and not uncommon in England where it

breeds, but seems generally to prefer the milder to the cold climates. It is found, however, as high as Finmark, inhabits Scandinavia, also Iceland, as well as Siberia, and in the course of its extensive wanderings, in autumn, it has been met with in the frozen sea, between Asia and America, in the inclement latitude of $69\frac{1}{2}^{\circ}$. It was not seen, however, by the late scientific northern navigators; and it is only given on the authority of Pennant, and from a specimen of the bird from Hudson's Bay, now in the British Museum.

Like the preceding, to which the present is related, it breeds in marshes, and on the verge of large pools, where it chiefly dwells; laying 4 eggs of an olivaceous-brown, spotted and blotched with black, the marks most numerous at the large end. When disturbed in their breeding retreats, they fly around the nest circularly in the manner of the Lapwing, uttering an incessant shrill whistle, and like the Tell-Tale are so vigilant, noisy, and jealous of their breeding retreat, as to be very troublesome to the sportsman, alarming his game, and defeating his pursuit. When wounded, like many other waders, they appear to swim with facility; and the Common Sandpiper *(Totanus hypoleucos)* has been known to dive at the approach of a hawk. They live principally upon larvæ, and soft bodied insects, as well as worms, and sometime prey upon minute shell-fish.

The Red-Shank is about 11 to 12 inches in length. Bill above, about 1 inch 8 lines. Length of the tarsus 2 inches. — *Winter plumage of the adult.* Head, back of the neck, top of the back, scapulars and wing coverts ashy-brown, the color deeper along the shafts. Throat, sides of the head, fore part of the neck and breast greyish-white, with dusky lines along the shafts. Rump, vent and abdomen, white. Tail feathers banded with white, and broad zig-zags of dusky. Iris brown. Legs and feet pale red. Half of the bill red, the rest black.

Summer plumage of the adults. — A white line from the upper mandible to the eye. Head, nape, top of the back, scapulars and coverts cinereous olive-brown, each feather nearly black towards its centre. On the scapulars and larger wing coverts, some small blackish transversal bands. Rump white. Sides of the head, throat, and all the lower parts white, but upon the centre of each feather there is a large longitudinal spot of blackish-brown. Tail feathers banded with black and white; the white soiled and grey on the 4 middle feathers. Legs, feet, and the lower half of the bill of a bright vermilion. — In the *young of the year*, the upper feathers about the head are dusky-brown, with fine yellowish margins. Back and scapulars the same brown, the feathers bordered laterally by a yellowish band, which forms angular spots upon the edges of the feathers. The region about the breast spotted narrowly with dusky-brown. Flanks and belly white, with some brown spots. Extremity of the tail rufous. Bill livid at the base, brown towards the point. Feet and legs orange.

Note. The *Totanus candidus* of Brisson, figured by Edwards, pl. 139. is considered by him to be an albino variety of *T. calidris*. Its semipalmated feet would, however, rather rank it with *T. semipalmatus;* but it is smaller. The plumage was all white, except a little transverse mixture of pale brown on the back, wings, and tail. The legs and feet bright reddish-orange.

WHITE-TAILED TATLER.

(*Totanus ochropus*, Temm. ii. p. 651. Richard. and Swains. North. Zool. ii. p. 392. *Tringa ochropus*, Gmel. Syst. i. p. 676. sp. 13. Lath. Ind. ii. p. 729. *Le Bécasseau* ou *Cul-Blanc*, Buff. Ois. vii. p. 534. Pl. Enlum. 843. [young of the year.] *Green Sandpiper*. Penn. Arct. Zool. ii. p. 475. No. 389 ?)

Sp. Charact. — Dark Olivaceous-brown, with green reflections, and spotted with white; three or four outer tail feathers white, or with a spot only towards their extremities; quills blackish-brown.

The Green Sandpiper, as this species has been called, is principally an inhabitant of the northern parts of Europe,

retiring in summer to the deep morasses of Sweden, Russia, and Siberia, and extending its vernal migrations as far as Iceland. One or two specimens have also been obtained at Hudson's Bay; but, as yet it can only be considered an accidental straggler in North America. In autumn, they visit the milder parts of the old continent, and are at that season seen occasionally in England, remaining from about the middle of September to the end of April. It mostly frequents marshes, pools, and shallow streams, preferring a residence near fresh water to the sea-coast, where it is but rarely seen. It is at all times a solitary bird, associating only by pairs, or merely accompanying their brood. When disturbed, like the other species, it makes a very shrill and whistling note as it takes to wing. Its food consists of small worms, flies, and other soft-bodied insects.

According to Temminck, they breed in the central parts of Europe, making a nest in the sand, or in the herbage, near to fresh waters, laying 3 to 4 eggs of a whitish green, with brown spots.

The White-Tailed Tatler from Hudson's Bay, was about 8 inches 9 lines long. The bill from above 1 inch 4 lines. Tarsus 1 inch 3 lines. — The *upper plumage* dark hair-brown with green reflections, dotted on the edges of the scapulars, tertiaries, and a few of the lesser coverts with whitish triangular specks, each spot having a dark margin. Primaries blackish-brown. Tail and its coverts white; 3 broad black bars towards the ends of the central tail feathers, fewer on the more exterior ones, and merely a spot or two on the two outer pairs. Line over the eye and cheeks whitish, with dusky streaks; a dark stripe on the lores. Front of the neck, breast, and flanks pale dusky-brown, with dark central stripes; the remainder of the under plumage pure white. Wings rather longer than the tail.

GREEN-RUMP TATLER.

(*Totanus chloropygius*, Vieill. Bonap. Synops. No. 263. Richard. North. Zool. ii. p. 393. Solitary Sandpiper, (*Tringa solitaria,*) Wilson, vii. p. 53. pl. 58. fig. 3. Phil. Museum, No. 7763.)

Sp. Charact. — Brown-olive, with slight green reflections, and spotted with whitish; rump and middle tail feathers also dark brown; tail white, broadly barred with blackish; quills and their shafts brownish-black.

The Solitary Tatler of Wilson is, probably, with the change of seasons, a general inhabitant of the whole North American continent. Early in May it arrives in Pennsylvania from the south, and a few remain to breed, according to the above author, in the marshy solitudes of the mountains of Virginia, Kentucky, and Pennsylvania; the greater part of the species, proceed, however, to the boreal regions, as far as the extremity of the continent. According to Richardson, it makes no nest, but merely deposits its eggs on the bare beach, or the gravelly banks of rivers; in such situations, or near mountain springs, brooks, or pools, they are seen solitary or by pairs, running swiftly when alarmed or in pursuit of their prey, and seldom taking wing until hard pressed, on which occasion it makes a short circular flight, and soon alights near the same place to renew its search for subsistence. Occasionally it stops and watches the observer, often nodding or balancing its head and tail, almost in the manner of the European Wagtail (*Motacilla*). It is extremely unsuspicious of danger, proceeding in its usual occupation almost unconcerned, when nearly approached: in fact, the safety of the species, is in no small measure, due to their solitary and retiring habits, as they are never seen on the strand of the sea, nor collected into

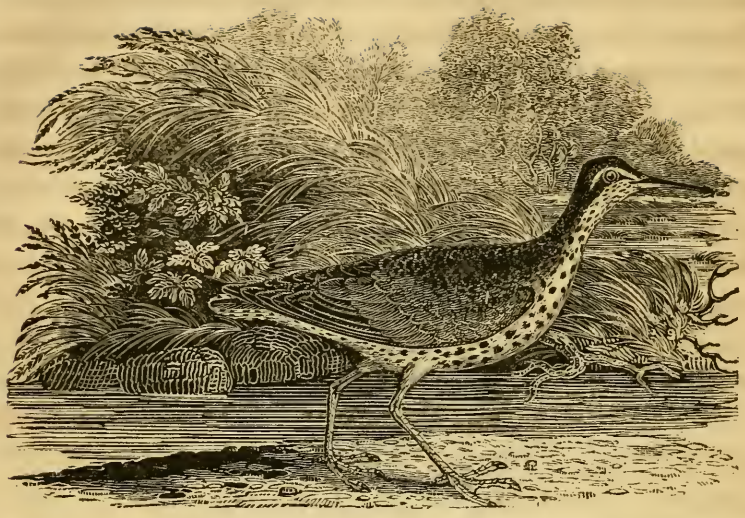
flocks, so as either to fall in the principal path of the fowler, or to present themselves in sufficient numbers for a successful shot. Their flesh, however, is well flavored, and they are usually fat.

In Massachusetts, the Solitary Tatler is only seen at the commencement of cool weather. About the beginning of September, they arrive in single pairs, apparently, from the north, at which time also they are supposed to descend from their breeding resorts in the mountains, and now frequent the miry borders of tide-water streams and estuaries, as well as small ponds, and, in short, any situation which affords the means of subsistence with little labor. They feed principally upon insects, such as small coleoptera, and caterpillars.

A pair, but oftener a single individual, have usually frequented, very familiarly, the small fish-pond in the Botanic Garden in Cambridge. Attracted by the numerous *Donatias* and their larvæ, which feed upon the water lily *(Nymphæa odorata,)* I observed one of them tripping along upon the sinking leaves with great agility, expanding its wings, and gently flitting over the treacherous element in the manner of the Rail. At another time, probably the same individual, (who at first was accompanied by a mate,) was seen, day after day, collecting insects, and contentedly resting in the interval, on the border of the pond. The water having been recently let off, the lily leaves and insects were covered with mud; as soon then as our little familiar and cleanly visitor had swallowed a few of these insects, he washed them down with a drink of the water, and at the same time took the precaution to cleanse his bill and throat. Indeed it is remarkable, that however dirty the employment of these shore birds may be, so neat are they in all their habits, that not a stain or a soil is allowed for a moment to remain upon their limbs or plumage. This species is usually silent, ex-

cept when suddenly flushed, at which times it utters a sharp whistle, like most of the other kinds to which it is related. According to the observations of Mr. Ives (of Salem), the Solitary Tatler swims and dives, with great facility, when disabled from flying by a wound ; it even proceeds under the water, like the Divers or Grebes, and is only overtaken by a close pursuit. This species is allied to *T. glarcola*, but, at the same time, essentially distinct.

The Green-Rump Tatler is about 8½ inches long. The bill from above, about 1¼ inches. Tarsus about the length of the bill. Hind toe 3 lines. *Summer plumage of the adult.* Upper parts, including the central pair of tail feathers dark olive-brown, slightly glossed with green, and interspersed with small marginal, angular, white spots ; the lateral tail feathers and their coverts barred with black and white ; the white bars being broadest on the former ; rump feathers merely edged with white. Wings unspotted, except on the margins of the tertiaries. Primaries, their coverts, and the anterior border of the wing, deep brownish-black, with all the shafts of the same brown color. — *Under plumage* white ; short stripe over the eye whitish ; sides of the head, front of the neck, and breast, streaked with pale olive brown ; inside of the wings, and long axiliaries barred with blackish-brown and white. Bill blackish-brown. Legs and feet dusky-olive. Tail somewhat rounded laterally : in most of our specimens there are white spots on the margins of the middle tail feathers. In the adult ? probably, these spots are obsolete or wanting.



SPOTTED TATLER, OR PEET WEET.

(*Totanus macularius*, TEMM. BONAP. Syn. No. 264. Spotted Sandpiper, PENN. Arct. Zool. ii. p. 473. No. 385. WILSON, vii. p. 60. pl. 59. fig. 1. [adult] Spotted Tringa, (*Tringa maculata.*) EDWARDS, pl. 277. lower figure. Phil. Museum, No. 4056.)

SP. CHARACT. — Glossy olive brown, waved with dusky; rump and tail of the same color with the rest of the plumage; one or more outer tail feathers white, barred with black; quills dark olive brown, with a large white spot on the inner web — *Adult*, beneath white, with roundish dusky spots; bill yellow below, black towards the tip. — *Young*, beneath white; wing coverts edged, but not barred, with waving dusky lines; upper mandible blackish.

THE Peet Weet, is one of the most familiar and common of all the New England marsh birds, arriving along our river shores and low meadows, about the beginning of May, from their mild or tropical winter quarters, in Mexico, and probably the adjoining islands of the West Indies. By the 20th of April, Wilson observed their arrival on the shores of the large rivers in the state of Pennsylvania. They migrate and breed from the Middle States, in all probability,

to the confines of the St. Lawrence, or further; but were not seen by Dr. Richardson, or any of the Arctic expeditions, in the remote boreal regions, or around Hudson's Bay, as had been asserted by Hutchinson. It is also an accidental visitor in the old continent, being sometimes observed on the coasts of the Baltic, and in Germany, but still more rarely in Great Britain. As to residence, therefore, the Spotted Tatler may be considered as exclusively American, and confined chiefly to the limits of the more temperate parts of the Union.

As soon as the Peet Weet arrives on the coasts, small roving flocks are seen, at various times of the day, coursing rapidly along the borders of our tide water streams, flying swift and rather low, in circuitous sweeps along the meanders of the creek or river, and occasionally crossing from side to side, in rather a sportive and cheerful mein, than as the needy foragers, they appear at the close of autumn. While flying out in these wide circuits, agitated by superior feelings to those of hunger and necessity, we hear the shores re-echo the shrill and rapid whistle of *'weet, 'weet, 'weet, 'weet*, and usually closing the note, with something like a warble, as they approach their companions on the strand. The cry then again varies to *'peet, weet weet weet*, beginning high and gradually declining into a somewhat plaintive tone. As the season advances, our little lively marine wanderers often trace the streams some distance into the interior, nesting usually in the fresh meadows among the grass, sometimes even near the house and I have seen their eggs laid in a strawberry bed, and the young and old pleased with their allowed protection, familiarly fed and probed the margin of an adjoining duck pond, for their usual fare of worms and insects.*

* This occurred at my friend Mr. Brown's, at West Cambridge.

Like the preceding species, but more frequently, they have the habit of balancing or wagging the tail, in which even the young join as soon as they are fledged. From the middle to the close of May, as they happen to arrive in the different climates chosen for their summer residence, the pairs, seceding from their companions, seek out a site for their nest, which is always in a dry open field of grass or grain, sometimes in the seclusion and shade of a field of maise, but most commonly in a dry pasture, contiguous to the sea shore; and in some of the solitary and small sea islands, several pairs, sometimes nest near to each other, in the immediate vicinity of the noisy nurseries of the quailing Terus.* The nest, sunk into the bosom of a grassy tuft, is slightly made of its withered tops, and with a thin lining of hay or bent. The eggs 4 in number, are of a greyish yellow, or dull cream color, marked with a great number of specs and spots of dark brown, with a very few, of a somewhat lighter shade, the whole most numerous at the larger end: they are about $1\frac{1}{4}$ inches in length, and very wide at the greater end. On being flushed from her eggs, the female goes off without uttering any complaint; but when surprised with her young, she practises all the arts of dissimulation common to many other birds, fluttering in the path, as if badly wounded, and generally succeeds, in this way, so far to deceive a dog, or perhaps squirrel, as to cause them to overlook the brood, for whose protection these instinctive arts are practised; nor are the young without their artful instinct, for on hearing the reiterated cries of their parents, they scatter about, and squatting still in the withered grass, almost exactly their color, it is with careful search very difficult to discover them,

* As at Egg Rock, near Nahant, where they appear sedulously to employ the small portion of grass which grows on that islet.

so that nine times out of ten, they would be overlooked, and only be endangered by the tread, which they would endure sooner than betray their conscious retreat.

At a later period, the shores and marshes resound with the quick, clear, and oft repeated note of *peet wĕet, peet wĕet,* followed up by a plaintive call on the young, of *peet, peet peet? peet?* If this is not answered by the scattered brood, a reiterated *'weet 'weet 'weet, 'wait 'wait* is heard, the voice dropping on the final syllables. The whole marsh and the shores at times echo to this loud, lively, and solicitous call of the affectionate parents for their brood. The cry, of course, is most frequent towards evening, when the little family, separated by the necessity of scattering themselves over the ground in quest of food, are again desirous of reassembling to roost. The young, as soon as hatched, run about in the grass, and utter, from the first a weak plaintive *peep*, at length, more frequent and audible; and, an imitation of the whistle of *'peet weet,* is almost sure to meet with an answer, from the sympathizing broods which now throng our marshes. When the note appears to be answered, the parents hurry, and repeat their call with great quickness. The late Mr. William Bartram, so long and happily devoted to the study of nature, with which he delighted to associate, informed Wilson of the spirited defence which one of these Peet Weets made of her young against the attacks of a Ground Squirrel. The place was on the river shore; the female had thrown herself, with her two young behind her, between them and the land; and at every attempt of the enemy to seize them by a circuitous sweep, she raised both her wings, almost perpendicularly, and assuming this formidable appearance, rushed towards the squirrel, who intimidated by this show of resistance, instantly retreated, but soon returning, was met as before, in front and flank, by the resolute bird, who with her wings

and plumage bristled up, seemed swelled to twice her usual size. The young crowded together behind her, sensible of their peril, moving backwards and forwards as she advanced or retreated. In this way the contest endured for about ten minutes, when as the strength of our little heroine began to fail, the friendly presence of the humane relater put an end to the unequal and doubtful contest.

Young and old, previous to their departure, frequent the sea shores, like most of the species, but never associate with other kinds, nor become gregarious, living always in families, till the time of their departure, which usually occurs about the middle of October. While near the shore, they feed on small shrimps, coleoptera, and probably also molusca.

The length of the Spotted Tatler is from 6 to 7½ inches. Bill nearly an inch long, straight to the tip, which is curved, grooved nearly to the extremity, the point hard and horny, with no appearance of nervous pits, and therefore, but little sensitive; the color to the tip is brownish-yellow, brightest below; the hard extremity black. — *Upper plumage*, of a glossy brown olive, with greenish reflections. Summit of the head and neck marked with longitudinal dusky spots along the shafts of the feathers; the back, scapulars, and tertiaries undulatingly barred with dark olive-brown, the bars in zigzag on the larger and longer feathers. Quills dusky-brown, the 2 first plain, the succeeding marked each with a large oval white spot on their inner webs; secondaries white on the inner webs for more than half their length, broadly tipt with white, and with some white on part of the outer webs: bastard wing bordered and terminated with white. Rump and rounded tail, plain olive-brown; the central feathers faintly tipt with dusky, the rest more or less barred with dusky, and more distinctly terminated with white; the outermost lateral feather barred with black, but *white only on the outer web.* Lores dusky. Stripe over the eye and eye-lid white. Below white, tinged with grey at the sides of the neck; nearly all the feathers ending in a subterminal, roundish, dusky olive spot, (giving the whole bird, with its plain plumage, straight and black tipped yellow bill, no unapt resemblance to a Thrush, and hence the name of *Turdus aquaticus*, given it by Brisson.) Legs rather stout, dull wax

yellow, the tarsus somewhat shorter than the bill. Iris hazel. — *Female* larger, with the zigzags on the tertiaries small, obscure and confined to the tips; with the white spot on the wing commencing on the 2d primary, where, however, it is small and mottled. Outer tail feather, and a great part of the 2d white, with dusky bars. — *Young*, white below, and without spots, the sides of the breast ash-grey; two first primaries often wholly dusky-olive; top of the head and neck plain olive-brown, without spots or with very faint traces of them; coverts of the wings and the long feathers of the back all without bars, terminated with dark curved edgings, and tipped with slender borders of pale rufous or greyish-white. Outer tail feather in some white, in others with much olive, all barred with blackish.

Subgenus. — *Euliga.†

Bill slightly curving from near the middle, depressed at the base, about the length of the head. Legs and feet robust, the latter warty beneath; hind toe half the length of the inner one. *Wings* shorter than the tail.

This beautiful bird, for which this section is instituted, is in habit and plumage more allied to the Curlews than the present genus. The bill is thus faintly curved from below the point; the feet are equally robust. The bars on the inner parts of the wing and its axillaries, as well as the longitudinal and arrow shaped spots of the neck and breast; and particularly the medial line on the top of the head, are characteristic traits in the livery of several species of *Numenius*. But the inner and middle toe are divided to the base, and the bill is not longer than the head, as well as sharp at the extremity. These birds rarely ever frequent the sea coast, residing chiefly in meadows, and plains near the sea (in autumn,) subsisting almost wholly on coleoptera, grasshoppers, and other land insects. They appear to moult only once in the year.

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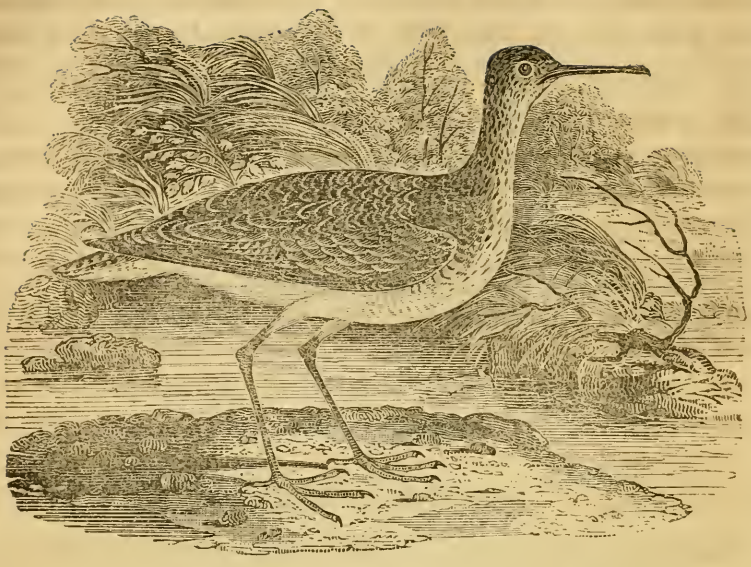
† From εν and λιγέα, in reference to its somewhat euphonous whistle.



BARTRAM'S TATLER.

(*Totanus Bartramius*, Temm. ii. p. 650. Bonap. Synops. No. 262. Richard. North. Zool. ii. p. 391. *Tringa Bartramia*, Wilson, vii. p. 63. pl. 59. fig. 2. *T. longicauda*, Bechst. Vög. Nachtr. *Der Langgeschwantzte Strandlatifer*, Naum. Vög. Nachtr. t. 38. fig. 76. Phil. Museum, No. 4040.)

Sp. Charact. — Rump black; wings much shorter than the tapering tail, first primary barred on the inner web; bill somewhat curved, below brownish-yellow towards the base.

Bartram's Tatler, known here by the name of the Upland Plover, so very distinct from the rest of the tribe with which it is associated in the systems, is one of the most common birds along the sea coast of Massachusetts, making its appearance with its fat and well fed brood, as early as the 20th of July, becoming more abundant towards the middle of August, when the market of Boston is amply supplied with this delicate and justly esteemed game.

According to the season of the year, they are found throughout the continent, many retiring south of the equator to pass the winter. They are observed in May, already busily gleaning coleopterous insects on the remote boreal plains of the Saskatchewan, and abound in the extensive prairies west of the Mississippi. At this time, and in June, they are seen common also, in Worcester county, (Mass.) and are believed to breed there. They are equally frequent on the plains of Long Island and New Jersey, and in similar bare and dry pastures in various parts of Massachusetts, particularly about Sekonk, and in Rhode Island, near to the sea coast, where they pass the greater part of the summer. Wilson, who first described the species, met with it in the meadows of the Schuylkill, pursuing insects among the grass with great activity. As a straggler, it has been seen, though very rarely, in Germany and Holland.

The breeding range of this species, extends, in all probability, from Pennsylvania to the fur countries of Upper Canada, as well as westward, on either side of the Mississippi. Scattering broods and nests, made in dry meadows, are not uncommon a few miles from Salem, where Mr. N. West informs me, he saw the young just fledged, the present season, (1833) in the month of July.

While here, they feed much upon grasshoppers, which now abound in every field, and become so plump as to weigh upwards of three quarters of a pound. They keep together usually in broods, or small companies, not in gregarious swarms, like the Sandpipers, and when approached, are, like Plovers, silent, shy, and watchful, so that it requires some address to approach them within gun shot. They run fast, the older birds sometimes dropping their wings and spreading the tail, as if attempting to decoy the spectator from paying attention to their brood. On alighting, they stand erect, remain still, and,

on any alarm, utter three or four sharp querulous whistling notes as they mount to fly. In the pastures they familiarly follow, or feed around the cattle, and can generally be best approached from a cart or wagon, for though very wary of man, they have but little apprehension of danger, in the company of domestic animals. In August, the roving families now approach the vicinity of the sea, resorting to feed and roost in the contiguous dry fields. In the morning, as they fly high in the air, in straggling lines, their short warbling whistle is sometimes heard high over head, while proceeding inland to feed, and the same note is renewed in the evening, as they pass to their roosts. It is also very probable, that this is usually the time they employ in their migrations to the south, which commence here, early in September, and by the middle of that month, a few stragglers only are found.

The length of Bartram's Tatler, is from 12 to 13 inches ; and about 21 in alar extent. The bill 1 inch 2 to 4 lines, black above, bright brownish yellow, inclining to orange below, towards the base. Tarsus from $1\frac{3}{4}$ to 2 inches, wax-yellow ; soles of the feet lemon-yellow, inner toe free, the web between the other toes short and thick. Iris dusky. — *Adult, in summer dress ;* upper plumage mostly blackish-brown, edged with tawny-rufous, sometimes almost fading into white. Summit of the head blackish-brown, the centre, in one of the sexes divided by a medial line of pale rufous; scapulars, tertials, and greater wing coverts, more or less obscurely barred with a deeper tint of blackish-brown ; the rufous margins broader, sometimes forming angular indentions between the dark bars. Lower part of the back, and most of the tail coverts, pitch-black. Spurious wings, and primaries with their coverts, blackish-brown ; the shaft of the 1st primary white, as well as the whole of the inner web, which is barred and marbled with dusky ; the inner webs of the other quills are also more obscurely barred ; secondaries tipped and spotted with white. Tail graduated, orange-buff, tipt with white ; the outer feathers more broadly, sparingly, and distinctly barred with black, the terminal bar broad, and deeply indented, the buff replaced by greyish-

brown, in the central pair of feathers. — *Under plumage*, chin and belly white; under tail coverts tinged with rufous, the large lateral feathers barred with dark brown. Neck and breast, pale tawny-buff, the former streaked, the latter crossed by arrow-headed marks of blackish-brown, flanks barred with the same. All the under wing coverts and lining, as well as the long axillaries white, barred with dusky-brown, *(female.)* The sexes appear alike in plumage: yet some individuals are darker, with narrow, and paler edgings to the feathers.

Obs. The moult (probably only annual,) takes place immediately after breeding, (in July,) and the plumage appears wholly similar with that of the vernal dress, which preceded it. The head, as in the Plover, is much more curved and elevated than in any other species of this genus. — The slight curve in the bill is wanting in our figure.

In *addition* to our account of the Solitary Tatler *(Totanus chloropygius)*; we remark, that its whistle, uttered when alarmed, or about to fly, is shorter and sharper than that of the Yellow Leg. It is, as we have already described, by no means shy; habitually solitary; often nods the head and tail; sometimes uttering a low faint *peep*, when watched too assiduously; and, when satisfied with its prey of insects, which it watches and pursues with eagerness, it frequently, in the manner of the Rail, steals off, and hides so closely in the sedge, as to defy discovery, and will not, on such occasions, rise to flight, however disturbed, till nearly trod upon.

GODWITS. (Limosa, *Briss. &c.*)

In these birds the bill is very long, and straight, more or less recurved from the middle, rather rounded and slender, very soft and flexible throughout, depressed; dilated, flat, and obtuse at the point; both mandibles deeply furrowed their whole length. Nostrils in the furrows of the bill, basal, lateral, linear, pervious. Feet and legs, long and slender, with a large naked space above the knee: 3 toes before and one behind; the middle united to the outer toe by a membrane which extends to the 1st articulation; the hind toe short and slender, touching the ground only at the tip. *Wings* long and acute; 1st primary longest. Tail of 12 feathers.

The *female* larger, and of somewhat duller colors. The *young* scarcely differing from the adult in winter plumage. They moult twice in the year, changing greatly the colors of their plumage, and the female acquires her dress later than the male.

The Godwits are large birds allied to the Curlews, with very long bills and legs, dwelling principally in marshes, and frequenting the estuaries, and muddy banks of rivers, at no great distance, from the sea. Their sight is weak, and their habits principally nocturnal, feeding usually on insects, larvæ and worms, which they collect at twilight, or by the light of the moon; for this purpose they thrust their long and sensitive bills, like Snipes, into mud and wet sand, as the feebleness of this organ renders it unfit for foraging in the earth, or in gravel. Indolent, timid, and shy, they live in flocks, scattered over the deep morasses, where they resort, hiding sedulously by day among the rank grass and reeds, which they only leave night and morning in quest of food; at such times their hoarse and shrill barking voice, is heard from the depths of the marsh, and has, from its quailing discordance, been compared to the cry of a goat. When discovered, they run out rapidly, without taking wing, among the reeds and swampy grounds in which they are always entrenched. They breed in society in the same situations, they usually frequent, laying their eggs among the grass or in the shelter of adjoining bushes. The Godwits, like some of our Sandpipers, (particularly *Tringa Wilsonii,)* migrate in flocks, by night, particularly when it is moonlight, and may, at such times, be heard, and sometimes seen passing along high in the air. The species of the genus are few, but spread over all the cold and temperate parts of the northern hemisphere. Of these, in all about four, two are confined to Europe, and two others to North America.

GREAT MARBLED GODWIT.

(*Limosa fedoa*, Vieill. Bonap. No. 266. Richard. North. Zool. ii. p. 395 *Great Godwit*, Penn. Arct. Zool. ii. p. 465. No. 371. *Marbled Godwit*, Ibid. Suppl. p. 68. No. 471. *Scolopax fedoa*, Wilson, vii. p. 30. pl. 56. fig. 4. [female.] Phil. Museum, No. 4019.)

Sp. Charact. — Bill recurved; rump uniform in color with the rest of the plumage; tail brownish, banded with black. — *Summer plumage*, dusky-brown, varied with rufous; beneath pale ferruginous. *Winter dress*, cinereous; beneath whitish. *Male*, with the breast marked with undulating bars of dusky-brown.

The Marbled Godwit is only a transient visiter along the sea coasts of the United States, in the spring and fall, on its way to and from its breeding place in the north. According to Richardson, they abound in the summer season in

the interior of the fur countries, being particularly plentiful on the Saskatchewan plains, where it frequents marshes and bogs, walking on the surface of the swamp moss, *(Sphagna,)* and thrusting down its bill to the nostrils in quest of worms and leeches, which it discovers by the sensitive point of its bill, thus finding means to obtain a kind of food which would otherwise be imperceptible to any other sense. They no doubt, likewise vary their fare, and feed also upon insects, and larvæ. They arrive on the coasts of the Middle States in the month of May, and linger on till some time in June. Many, however, at this time, have already arrived at their ultimate destination in the north, so that it is not improbable but some of these Godwits may breed in more temperate regions to the west as well as north, selecting the high plains of the Rocky Mountains, in situations sufficiently moist. At all events, they are seen in the lower part of Missouri, in the course of the spring, but migrate, like most other waders, along the sea coast, in the way to their tropical winter quarters.

The Marbled Godwit, in large flocks, appears in the salt marshes of Massachusetts, about the middle of August, particularly towards the eastern extremity of the Bay, around Chatham, and the Vineyard; their stay is, however, very short, and they, at the same time, no doubt, visit the eastern coast of Long Island. On these occasions, they are assembled by many hundreds together, and usually associate with the Short Billed Curlews, they themselves being called Red Curlews; though here they are distinguished also by the name of Doe-birds, and, being at this season fat, are highly esteemed for the table. They are very shy and cautious, but when once confused by the fall and cries of any of their companions, great destruction may be made among them before they recover from the delusion; they thus make repeated circuits round the wounded and com-

plaining, and may also be enticed within gun shot, by imitating their whistling call, in the manner of the Curlew. Indeed without some contrivance of this kind, they can seldom ever be approached. They are seen, it appears, in the Middle States as late as October, or November, but are not met with on this coast beyond the close of September.

Length of the *male* Godwit, 19 inches; of the *female* 21. Length of the bill from above, in the male, 3 inches 9 lines; of the female 4 inches 10 lines. Tarsus in the male 2 inches 10 lines; of the female 3 inches. The bill very slightly curved upwards; above, and at the tip blackish-brown, on the sides and beneath dull flesh-color. Legs greenish-black. Above dusky-brown, spotted or barred with different tints of buff or ferruginous, head darker. On the fore part of the back, scapulars, and tertiaries, the pale rust color forms transverse spots or bars; on the rump, tail, and its coverts, the pale bars are broader than the dark ones. *Four* first quills blackish-brown, edged with buff; their inner webs, the remaining quills, the secondaries, and part of the greater coverts, bright yellowish-buff, sprinkled with black; shaft of the first quill brownish-white. Line from the nostrils to the upper eye-lid and the chin white; cheeks the same, streaked with dusky. *Under plumage* bright wood-brown, with small dusky spots on the neck; breast and flanks barred with the same. The whole inside of the wings, and under surface of the tail, rufous-orange. — In some specimens the inner wing coverts, and under tail coverts are barred with liver-brown. Middle *nail* in some individuals notched, in others entire.

HUDSONIAN GODWIT.

(*Limosa hudsonica*, Swainson, and Richard. North Zool. ii. p. 396. *Hudsonian Godwit*, Lath. Penn. Arct. Zool. Suppl. ii. p. 68. *Scolopax hudsonica*, Lath. Ind. ii. p. 720. sp. 20. *Red-breasted Godwit*, Edwards, pl. 138.)

Sp. Charact. — Bill very slightly recurved; rump white; tail somewhat doubly forked, black, with a white base and tip; axillary feathers black. — *Summer plumage* dusky-brown, varied with pale

rufous; beneath chestnut, spotted and barred with dusky. *Winter dress* ashy-brown, beneath on the breast grey, below white.

The Hudsonian, or American Black-Tailed Godwit, though abundant in the barren grounds near the Arctic sea, where it breeds, is an uncommon visiter in the eastern and Middle States of the Union; although, from all analogy, and the impossibility of the species subsisting through the winters of its natal regions, we are certain that the whole retire into mild climates to pass the winter. They probably, like some other birds of the same countries, retire southward by an inland route, or even pass the autumn on the shores of the North-Western coast of the continent; be this as it may, the present bird is among our greatest rarities; as I have seldom seen more than two or three pair in the course of the season; these are found on the neighboring coast of the Bay, and called by the market people of Boston, Goose-Birds. I obtained a solitary pair of these stragglers about the 8th of September; they were very fat and well flavored, scarcely distinguishable, in this respect, from the Curlew, and appeared to have been feeding on some *Ulva* or other vegetable substance. Several pair of young and old birds were brought to market this year, (1833), from the 6th to the 30th of the same month. An individual, now in the Philadelphia Museum, was shot also, near the coast of Cape May, in New Jersey. They sometimes associate with the Plovers, and descending to the marshes and the strand, feed upon minute shell-fish, shrimps, and the roots of the *Zostera*. According to Richardson, they frequent boggy lakes; like the preceding, probing the *sphagnum* and mud in quest of insects, and minute shell-fish. Its manners are similar to those of the *L. fœdoa*, and in most respects it makes an approach to the Black-Tailed species of Europe; it is, however, somewhat larger, and readily contradistinguished. The *L. melanura* frequently utters a low, plain-

tive, yelping note, like the barking of a puppy, or small whining dog. The Red Godwit, is indeed called the Barker by Buffon, from the similarity and frequence of this habit. The English name of Yarwhelp, for the *melanura*, has also reference probably to the same note; and the clandestine passage, high in the air, and in the dead of night, of the mysterious '*Seven Whistlers*,' sometimes heard in my native village,* in Yorkshire, and to which, harmless superstition occasionally added some supernatural presage, was, in all probability, nothing more than a wandering visit of this singular company of Yelpers, or Curlews, returning to their native marshes and fens in the interior, where formerly they were known to breed.

The *L. melanura* nests in the high grass of the meadows, near water, and lays 4 eggs of a dark olive, marked with large pale brown spots.

Length of the *male* Hudsonian Godwit 15 to 16 inches; of the *female* 18 to 19. Bill measured from above, in the male, 3 inches or less; in the female 3 inches 7 lines, rather more curved upwards than that of *L. fedoa;* dark umber above and at the point; elsewhere purplish flesh color. Legs and feet black. Tarsus of the male about 2 inches; of the female 2 inches 4½ lines. — *Summer dress*, with the top of the head dusky-brown, with pale edgings. Line over the eye whitish and spotted. Sides of the head and the neck above and below, wood-brown, with dark streaks. Scapulars, interscapulars, and tertiaries, dark liver-brown, tinged with green, the tips and marginal spots dilute wood-brown, or pale rufous. Middle and hind part of the back dark clove-brown, with pale edgings. Broad transverse band on the rump, the base and tip of the tail, white; middle of the tail and ends of its longer coverts black; central pair of tail feathers tipped with pale olive-brown. Primary coverts and quills blackish-brown; the shafts white to near their tips. *Under plumage* posterior to the neck, deep chestnut-brown; the breast marked with roundish black spots, the belly with undulating bars, which become much broader and more numerous posteriorly and

* Long Preston.

on the tail coverts; the posterior under plumage is also tipt with white; the two longest under tail coverts are white, with two large, oblong, black blotches. Under wing coverts blackish-brown, tipt with white; long axillaries and the lesser coverts surrounding them, unspotted pitch-black. Wings equal in length to the tail, which is partially forked, the central pair of feathers, being, however, as long as the outer pair, thus producing a double emargination, or notching; outermost feather nearly all white, except the oblique tip which runs far down on the inner web. In the *female* the chestnut of the under plumage is less pure, more tipt with white, and barred with black, and the nails of their middle toes are more apt to be dentated; (in the 7 specimens before me, however, there is no vestige of a notch;) this character even varies in the feet of the same individual. — *Winter plumage*, a dark mouse grey, almost wholly without spots and edgings. *Below*, this color on the throat and breast is dilute, and tinged with yellowish, the rest of the inferior plumage fading into white towards the belly and vent.

In the young of the year, the head and neck are of a dull brownish-grey, the former spotted with dusky-brown. The back and scapulars dusky-brown, edged with rufous-white, a few of the longest often partly barred at their extremities. Rump greyish pitch-black, the lower part and tail coverts pure white, a few of the latter tipt with black. Tail black, the lower part of the feathers white, tips brownish-white, outermost tail feather for the most part white, obliquely tipt with black. Stripe over the eye whitish. Lores dusky-brown. Chin, rump, and under tail coverts, white. Throat and breast brownish-ash color; below white, faintly tinged with rufous. Slight indications of waving spots on the sides of the breast. Wing coverts ash, dusky along the shafts, greater coverts broadly fringed with ashy-white. The first 4 primaries brownish-black, the rest and secondaries white below, that color extending farther up on the outer shafts. Primary coverts pitch black, tipt broadly with greyish-white, shoulder of the wing dusky. Long axillaries, intimate and upper lining of the wing black; the anterior lining broadly edged with white. Intimate lining of the secondaries principally white. Legs and feet olive-black, webs of the the toes unequal, the outer extending to the first articulation, the other half as long. Bill slightly curved upwards, dusky-brown above, black at tip, the greater part of the lower mandible brownish-red: in the male $2\frac{3}{4}$ inches long; (measured from above) in the female $3\frac{1}{4}$ inches. Length of the male 15 inches; of the female 17.

THE WHITE GODWIT.

(Limosa Edwardsii, Richard. North. Zool. ii. p. 398. in a note. The White Godwit from Hudson's Bay *(Fedoa Canadensis, rostro sursum recurvo,)* Edwards, pl. 139. posterior figure.

Of this bird nothing is yet known beyond Edwards's figure and description, made from a specimen brought from Hudson's Bay by Mr. Isham in 1745. "This bird is of the size of the Red-Breasted Godwit *(L. Hudsonicus,)* and its measures agree pretty nearly therewith, except the Bill, which is rather longer, and turns upwards towards the point like that of *Avocetta (Recurvirostra.)* The *bill* is of an orange color, but black at the point; it bends gradually upwards, like a scythe, and is justly represented in the figure. The plumage of this bird is white all over, excepting the tail, the greater quills, and the small feathers on the ridge of the wing, which are of a dirty or yellowish-white; the covert feathers withinside of the wings are light brown; the legs are bare above the knees; the outer is joined to the middle toe; the legs, feet, and claws are all of a dark brown color." — Edwards.

SNIPE, &c. (Scolopax, *Lin.)*

With the bill long, straight, slender and compressed, soft and flexible; the point depressed, dilated, tumid, and obtuse, minutely tuberculated or dotted, projecting over the lower mandible: both mandibles furrowed to the middle. Nostrils in the furrow of the bill, basal, lateral, linear, pervious, covered by a membrane. *Feet* and *legs* moderate, slender, 4-toed, naked space on the tibia small; fore toes entirely divided.* *Wings* moderate, the 1st and 2d primaries nearly of equal length, and longest in the wing. Tail short and rounded, of from 12 to 16 or more feathers.

The head large, compressed, low in front and high behind; the eyes large, placed high and far back in the head, so as to give a stupid appearance to the bird, for which it is indeed characteristic.

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* The outer united to the middle toe in the subgenus, Macroramphus.

The tongue long, filiform and acute. The body compressed and very fleshy. The sexes, with the young, similar in their plumage, but the female a little larger. They moult twice in the year, and the tints are a little more brilliant in summer.

These birds, nearly nocturnal in their habits and time of feeding, live usually in woods, or in bogs and marshes, and feed on worms, insects, and other small animals, which they seek in mud or bog-moss, by probing down with the sensitive bill, whose extremity possesses, in consequence of its peculiar nervous netting, all the appropriate sense of touch; when this resource fails, and also in common, they seek their prey by turning over the decayed leaves of the forest, under which it may happen to lurk. When pursued they keep close to the ground, and have the infatuation to think that by hiding their head in their feathers, they are concealed from their enemies; when close chased, or suddenly flushed, they start on wing and fly out with great rapidity. The flesh is considered superior to almost any other game. — The species, composed of two or more subgenera, are spread all over the world, but they generally prefer cold countries for their residence, in which, if temperate, they are often resident the whole year, in other climates they are necessarily migratory from the nature of their food. They nest on the ground; and the eggs are about four.

Subgenus. — Macroramphus, *(Leach.)*

With the eye not far back in the head; the legs long; the bare space above the knee extensive; tarsus longer than the middle toe; the outer toe connected to the middle one by a membrane as far as the first joint, the inner toe also connected by a very short web; the hind toe nail acute and projecting over the toe. Tail of 12 feathers.

These birds, different from the true Snipes, vary their plumage according to age and season, in the manner of the Sandpipers. Unlike the Snipes, they are also gregarious, keeping and flying in flocks, and generally inhabit open marshy grounds in the vicinity of the sea; they fly high and with rapidity, and have not the habit of hiding in the herbage. Of this section, or rather true genus, there is but a single species. It appears to connect *Scolopax*

with *Totanus*, and is in many respects allied to HETEROPODA *(Tringa semipalmata)* both in the feet, bill, wings, and general plumage.

BROWN, OR RED-BREASTED SNIPE.

(Scolopax grisea, GMEL. LATH. Ind. Orn. ii. p. 724. sp. 33. TEMM. ii. p. 679. BONAP. Syn. No. 267. Am. Orn. iv. p. 51. pl. 23. fig. 3. Brown Snipe, PENN. Arct. Zool. ii. p. 464. No. 369. *Macroramphus griseus*, LEACH. Cat. Brit. Mus. [winter plumage.] — *Scolopax noveboracensis*, LATH. GMEL. Syst. i. p. 658. Red-breasted Snipe, PENN. Arct. Zool. ii. p. 464. No. 368. WILSON, vii. p. 45. pl. 58. fig. 1. [summer dress.] RICHARD. North. Zool. ii. p. 398. *(Limosa.)* Phil. Museum, No. 3932.)

SP. CHARACT. — Rump and tail white, the former spotted, and the latter thickly banded with black; shaft of the first primary white. — *Summer plumage*, black, varied with rufous and cinereous; superciliary stripe, and all below rufous. *Winter dress*, chiefly cinereous, beneath white. *Young*, with the neck and breast mostly cinereous, and the back feathers with broad rufescent borders but without marginal spots; from the breast to the tail, below, white, tinged with rufous.

THE Red-Breasted Snipe begins to visit the sea coast of New Jersey early in April, arriving from its winter quarters probably in tropical America. After spending about a month on the muddy marshes, and sand-flats, left bare by the recess of the tides, a more powerful impulse than that of hunger impels the wandering flocks towards their natal regions in the north, where secluded from the prying eye of man, and relieved from molestation, they pass the period of reproduction, the wide range of which continues, without interruption, from the borders of Lake Superior to the shores of the Arctic Sea. On the plains of the Saskatchewan, according to Richardson, they feed much upon leeches

and coleoptera, for which, no doubt they probe the mud and *sphagnum* of the bogs and marshes, a habit which they also pursue while here, on their way to the south, particularly collecting the larvæ of aquatic insects, such as *Libellulæ*, and others. The nest and eggs of this species are yet unknown. The ovaries in females killed in May were already swelled to the size of peas; and by the 20th of July, or beginning of August, they revisit the shores of New England and the Middle States, in large flocks recruited by their young, already full grown, in good condition for the table, and are at all times greatly esteemed for their excellent flavor.

The Red-Breasted Snipes are always seen associated in flocks, and though many are bred in the interior around the great northern lakes, they now all assemble towards the sea coast, as a region that affords them an inexhaustible supply of their favorite food of insects, molusca, and small shell-fish; and here they continue, or a succession of wandering and needy bands, until the commencement of cold weather advertises them of the approach of famine; when, by degrees, they recede beyond the southern limits of the Union. While here, they appear very lively, performing their aërial evolutions over the marshes, at a great height sometimes in the air, uttering at the same time a loud, shrill and quivering whistle, scarcely distinguishable from that of the Yellow Legged Tatler, (something like *'tĕ-tĕ-te, 'tĕ-tĕ-te.*) The same loud and querulous whistling is also made as they rise from the ground, when they usually make a number of circuitous turns in the air, before they descend. At all times gregarious, in the autumn and spring they sometimes settle so close together, that several dozens have been killed at a single shot. While feeding on the shores or sand-bars, they may be sometimes advantageously approached by a boat, of which, very naturally, they have but

little fear or suspicion, nor are they at any time so shy as the common Snipe, alighting often within a few rods of the place where their companions have been shot, without exhibiting alarm until harassed by successive firing. Besides molusca, they occasionally vary their fare with vegetable diet, such as the roots of the *Zostera marina*, and I have also found in their stomachs the whitish oval seeds of some marsh or aquatic plant; they likewise, in common with the Sandpipers, and many other wading birds, swallow gravel to assist the trituration of their food.

The length of the Red-Breasted Snipe is about 11½ inches, (this is the length, at least, of 5 specimens now before me) the male, however, is said to be less. The bill is black towards the point, the remainder dull olive; the epidermis at the base of the bill transversely wrinkled; its length about 2½ inches, measured from above; (in young birds somewhat shorter.) The tarsus less than 1½ inches. Middle toe, without the nail, about 1 inch. — *Winter plumage*, with the summit of the head, neck, breast, wing coverts, back and scapulars ashy-brown, paler on the latter, with all the feathers darker on the margins and tips; a band of this color between the bill and the eye. Line over the eye, belly, throat, and thighs white; flanks whitish, with waving lines of pale brown. Back and scapulars pale brown, with darker tips to the feathers. Rump and lower tail coverts white, with curving spots of blackish, which become transverse bands upon the upper coverts of the tail, of which all the feathers are striped with approximating bands of black and white. — *Summer plumage*, with the top of the head, back of the neck, scapulars and tertiaries, striped and spotted on the margins with ferruginous, with transverse bars of the same color on the longer scapulars and tertiaries. Wing coverts and secondaries clove-brown; the former narrowly edged with white, the latter broadly edged and striped down the shafts with the same. Primaries blackish-brown, the shaft of the 1st one white. Middle and hind parts of the back white, the rump marked with round spots of blackish-brown, which, on the tail coverts become transverse bars. Tail with about 10 black bands, broader than the white intermediate ones, the 2 central feathers tinged and tipt with rufous. Line over the eye, and whole *under plumage* buff, approaching to ferruginous. Sides of the head spotted

with dark brown, the spots crowded into a stripe on the lores. Front of the neck, sides of the breast, flanks, and tail coverts, marked with scattered round spots of dark brown, larger, and forming bars under the wings. Inner wing coverts barred with white and clove-brown. In some specimens the black bars of the tail are very broad and irregular, becoming blotched and zig-zag. — In *young* birds, which form more than two thirds of all those brought to the Boston Market, the upper plumage is more broadly edged with dilute rufous; the bars on the scapulars less defined; the marginal spots on the feathers of the top of the back wholly wanting. The neck cinereous, faintly tinged with dark brown; stripe over the eye, and chin, nearly white; sides of the neck, throat, and top of the breast pale grey, tinged with very dilute rufous, and with a few, very small and indistinct or clouded specks of clove-brown. Breast and all the lower parts white, tinged with rufous; the vent spotted with black. The tail handsomely tipt with rufous, with the last black bar in zig-zag.

Subgenus. — Scolopax. *(True Snipes.)*

With the legs of moderate length, and a small naked space above the knee; all the toes are cleft; the hind nail acute and projecting over the toe. Tail of from 12 to 16, 18, or even 24 feathers! The young similar to the adult; and there is no change of colors in moulting. The feathers present generally a mixture of black, white, rufous, and cinereous.

The Snipes, merely associated by pairs, or solitary, dwell in open marshes, in bogs, and on the margins of rivers, as well as by pools of fresh water; they frequent damp, and sometimes also dry prairies, but have no predilection for the sea coast. As they always hide in the grass, they are not perceived until started. Their flight is high, rapid, and irregular. The species are few, but some of them spread over the whole globe.

WILSON'S SNIPE.

(*Scolopax Wilsonii*, Temm. Bonap. Syn. No. 268. Richard. North. Zool. ii. p. 401. Snipe, (*Scolopax gallinago,*) Wilson, vi. p. 18. pl. 47. fig. 1. Phil. Museum, No. . . .)

Sp. Charact. — Tail graduated, of 16 feathers, with black subterminal bars; the outermost with 5 bars of black and whitish, and only half as broad as the middle feathers of the tail; rump dusky, faintly mottled and barred with pale yellowish-brown.

The Snipe of North America, so nearly related to that of Europe, is found according to the season, in every part of the continent, from Hudson's Bay to Cayenne, and does not appear indeed sufficiently distinct from the Brazilian Snipe of Swainson, which inhabits abundantly the whole of South America as far as Chili. Many winter in the marshes and inundated river grounds of the Southern States of the Union, where they are seen in the month of February, frequenting springs and boggy thickets; others proceed along the coast of the Gulf of Mexico, and even penetrate into the equatorial regions.

By the second week in March, they begin to revisit the marshes, meadows, and low grounds of the Middle States, and soon after they arrive in New England. In mild and cloudy weather, towards evening, and until the last rays of the setting sun have disappeared from the horizon, we hear, as in the north of Europe, the singular tremulous murmurings of the Snipes, making their gyratory rounds so high in the air as scarcely to be visible to the sight. This humming, or rather flickering and somewhat wailing sound,* has a great similarity to the booming of the Night Hawk

* Like '*woho 'ho 'ho 'ho 'hoo*, quickly repeated; or the hooting of the small owl, (*Strix asio.*)

(Caprimulgus); but more resembles the sound produced by quickly and interruptedly blowing into the neck of a large bottle than the whirring of a spinning wheel. But, however difficult and awkward may be our attempts to convey any adequate idea of this quailing murmur, it seems to be, to its agent, an expression of tender feeling or amatory reverie, as it is only uttered at the commencement, and during the early part of the pairing season, while hovering over those marshes or river meadows, which are to be the cradle and domicil of their expected progeny, as they have already been of themselves and their mates. This note is probably produced by an undulatory motion of air in the throat, while in the act of whirling flight; and appears most distinct as the Snipe descends towards the ground. However produced, the sound and its originators are commonly so concealed by the fast closing shades of night, and the elevation from whence it issues in cloudy weather, that the whole seems shrouded in mystery. My aged maternal parent remembered, and could imitate with exactness this low wailing murmur, which she had for so many years heard over the marshes of my native Ribble, in the fine evenings of spring, when all nature seemed ready to do homage for the bounties of the season; and yet at the age of 70, the riddle had not been expounded with satisfaction.

Over the wide marshes of Fresh Pond, about the middle of April, my attention was called to the same invisible voice, which issued from the floating clouds of a dark evening; the author was here called the Alewife Bird, from its arrival with the shoals of that fish in the neighboring lake. From the elevation at which the sound issued, probably, it appeared less loud and distinct than that which I have since heard from the English Snipe. I imagined then, that the noise was made by the quick and undulatory fanning of the wings, but this would not produce the shrillness of tone

by which it is characterized, as any one may satisfy himself by hearkening to the very different low buzz made by the wings of the Humming Bird. In this instance, as well as in the former, all my sporting acquaintance were familiar with this quivering call, but had never decided upon its author.* At the same time, probably instigated by anger and jealousy, I observed flying high and rapid, a pair of these Snipes, who then uttered a discordant quacking sound; something like the bleat they make when they have descended to the ground, and which they accompany with an attitude of peculiar stupidity, balancing the head forwards, and the tail upwards and downwards, like the action of some automaton toy, jerked and set in motion by a tight drawn string.

After incubation, which takes place rather early in the spring, the humming is no longer heard, and the sprightly aërial evolutions which appeared so indefatigable, have now given way to sedater attitudes and feebler tones. A few pairs no doubt breed in the extensive and almost inaccessible morasses of Cambridge ponds or lagoons; and I have been informed, that they select a tuft of sedge for the foundation of the nest, which is constructed with considerable art; the eggs, like those of the European species, about 4, are perhaps alike olivaceous and spotted with brown. They probably scatter themselves over the interior of the continent to breed, no where associating in great numbers; nor are they at all common in the hyperboreal retreats chosen by so many of the other wading birds. My friend, Mr. Ives of Salem, also informs me, that a few pairs of this species breed in that vicinity.

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* Indifferent observers may well be excused, when it is known, that even Montague appears ignorant of the fact; and Wilson attributes this humming to the Woodcock in place of the Snipe.

The Snipe, almost nocturnal in its habits, conceals itself with assiduity in the long grass, sedge, and rushes of its enswamped and boggy retreat. Aware of danger from the approach of the sportsman, it springs at a distance with great rapidity, uttering usually a feeble squeak; and making several inflections before it takes a direct course, it becomes very difficult to shoot, and is more easily caught with a snare or springe similar to that which is set for Woodcocks. Being, deservedly, in high repute, as an exquisite flavored game, great pains are taken, to obtain Snipes. In the spring season, on their first arrival they are lean; but in the autumn, assembled towards the coast from all parts of the interior, breeding even to the banks of the Mississippi, they are now fat and abundant, and, accompanied by their young, are at this time met with in all the low grounds and enswamped marshes along the whole range of the Atlantic; but ever shy and dexterous, they are only game for the most active and eager sportsmen. When on the wing, they may like many other birds of this family, be decoyed and attracted by the imitation of their voice. They are, like the European Snipe, which migrates to winter in England, by no means averse to cold weather, so long as the ground is not severely frozen, in such a manner as to exclude their feeding; so that even in Massachusetts they are found occasionally down to the middle of December. They are no where properly gregarious, but only accidentally associate, where their food happens to be abundant. For this purpose they are perpetually nibbling and boring the black marshy soil, from which they sometimes seem to collect merely the root fibres which it happens to contain, though their usual and more substantial fare consists of worms, leeches, and some long legged aquatic insects; the Snipe of Europe also seizes upon the smaller species of *Scarabæus*. Their food, no doubt, is mixed with the black and slimy earth they

raise while boring for roots and worms, and which, in place of gravel, or other hard substances, appears to be the usual succedaneum they employ to assist their digestion and distend the stomach.

The length of Wilson's Snipe varies from 11 to 11½ inches; the alar stretch about 17 inches. The bill from 2½ to 2¾ inches, brown, and black towards the tip (shorter in the young bird.) The crown black, divided by an irregular line of pale brown; and another of the same tint passes over each eye. A dark brown stripe on the lores, and another oblique one beneath the ears. Neck and upper part of the breast pale brown, with small dusky longitudinal spots. Chin pale and spotless, white, tinged with brown. Back and scapulars deep black with bronzy reflections, the latter faintly barred, and broadly edged exteriorly with pale-brown and white; the central feathers of the back broadly edged on their outer margins with dilute brown, thus producing two broad pale stripes down the centre of the back, the same feathers also minutely tipt with brown. Wings plain dusky; outer web of the 1st primary as well as the lower portion of the shaft white. Outer spurious feather of the bastard wing much acuminated, and white, except a dusky space along the shaft; wing coverts dusky, tipt with white, the upper ones paler and broadly edged with a tint of brownish-white, the shoulder of the wing dusky brown and glossy. Tail coverts long and dusky, faintly barred with pale brown. Tail rounded, black, with a bright ferruginous zigzag, subterminal, broad band, then crossed by a similar narrower dusky bar, and tipt with dilute brown, passing externally into white; on some of the lower feathers there is either a ferruginous spot below the large bar on the inner web, or a pale greyish ferruginous entire bar; the outermost narrow feather is almost wholly white, tinged with dusky on the inner web, and crossed by 5 dark bands. — This is then, very nearly, the *Scolopax braziliensis* of Swainson, but the whole *three* outer feathers are not white as in that species. The belly white, the sides barred broadly with dusky, but faintly tinted, as well as the breast, with dilute brown. The throat and commencement of the breast, faint greyish-brown, with two broad and darker indistinct stripes along the sides of the throat. Long axillary feathers, pure white, with 11 or 12 broad and very elegant angular dusky bands on the longest of them; the lining of the wing white, and also barred with the same. Vent pale brown, the sides tawny, with

dusky spots and bars. Legs and feet cinereous-olive. — In the *young* bird, the whole throat and neck is almost equally mottled, and the tertiaries and lesser wing coverts are more abundantly barred with pale brown, the latter edged and tipt with white; the white edgings on the scapulars and back feathers are also more conspicuous, and the rump and tail coverts lighter: the ferruginous bands on the tail are more intense; and the bill is a quarter of an inch shorter.

Obs. The specimen described by Dr. Richardson, from Hudson's Bay, is only 10½ inches long, and the two outer pairs of tail feathers are brownish-white, with *three* narrow, equidistant, blackish bars.

On comparing our Snipe with the European *(S. gallinago,)* the black feathers on the top of the head in that are spotted with brown, the medial line more distinctly marked. The outer pale edges of the scapulars are broader, and not so distinctly fringed with white. The tertiaries are much more strongly barred with tawny-brown. The rump may be said to be *tawny-brown with black undulating bars.* The lesser wing coverts are more broadly tipt with white. *Tail* of 14 feathers, the outermost quite as broad as the rest, which have much more brown upon them than in ours, and the tail itself is nearly even when spread. Throat and breast less darkly spotted; and the region of white below more extensive. The flanks with far fewer dusky bars; and with more white than black on the long axillaries. The vent less brown. The naked space on the tibia more extensive. Size the same with ours: and the bill and legs alike.

DRUMMOND'S SNIPE.

(*Scolopax Drummondii*, Swainson, Richard. North. Zool p. 400. *Peethapacasew*, Cree Indians.)

Sp. Charact. — Tail of 16 feathers; the two outer pairs somewhat narrowed, varied with black and white; the rest broadly banded with ferruginous.

This species, according to Dr. Richardson, is common in the fur countries up to latitude 65°, and is likewise found in the recesses of the Rocky Mountains. Its manners are in all respects similar to those of the European Snipe. It is intermediate in size between *S. major* and

gallinago; but has a much longer bill than the latter and two more tail feathers. Its head is divided by a pale central stripe, as in those species, but its dorsal plumage is more distinctly striped than in *S. major;* and the outer tail feather is a quarter of an inch shorter than that of *S. Douglasii.*

Dorsal plumage and wings mostly brownish-black. The top of the head, scapulars, interscapulars, intermediate coverts, posterior greater ones, and tertiaries, reflecting green, and mottled or barred with yellowish-brown: this color also forming stripes from the forehead to the nape, over the eyes to the sides of the neck, and more broadly on the exterior edges of the scapulars and interscapulars. Middle dorsal plumage, and first quill fringed with white, most of the wing coverts and lesser quills tipt with the same. Shafts of the primaries deep brown; an inch of the first, near its point, whitish. Rump and tail coverts yellowish-brown, barred with clove-brown. Tail of 16 feathers; the 3 central pairs rich greenish-black, with reddish-orange or ferruginous ends, crossed by a blackish subterminal line, and tipt with white; the 3 exterior pairs barred alternately with clove-brown and brownish-white, the white tips broader; the 2 intermediate pairs colored nearly like the middle ones, but partly barred and tipt with white. *Under plumage;* with a dark brown stripe on the lores, and another under the ear. Sides of the head, front of the neck and breast, pale wood-brown, with central spots of dark umber. The flanks, insides of the wings, and under tail coverts, barred with black and white, which on the latter is tinged with brown. Belly white. Bill blackish towards its tip, dark wood-brown at the base. Tail rather long, graduated, the feathers decreasing a little in breadth as they are more exterior. Total length 11½ inches: tail 2 inches 10 lines: the bill, from above, 2 inches 7 lines; tarsus 1 inch 3 lines.

DOUGLAS'S SNIPE.

(*Scolopax Douglasii*, Swainson, Richard. North. Zool. p. 400.)

Sp. Charact. — Tail of 16 feathers, not narrowed, all banded with ferruginous, except the outer pair, which are paler.

The only specimen yet known, was killed on the banks of the Columbia, in Oregon, by Mr. Douglass, whose name it bears. The total length was 11½ inches; of the wing 5 inches; the tarsus 1 inch 3½ lines.

WOODCOCKS. (Rusticola, *Vieill. Savi.)*

In this tribe of birds, the bill is nearly similar with that of the Snipe, but more robust, with the extremity attenuated and not depressed; the under mandible is also deeply grooved beneath. The *eyes* are placed very far back in the head, which last is rather quadrate than round. Legs robust, short, and wholly feathered to the knees, tarsus shorter than the middle toe; the *toes* cleft from the very base, and the hind nail truncated, and not projecting over the toe. The 1st or 4th primary longest. *Tail* of 12 feathers.

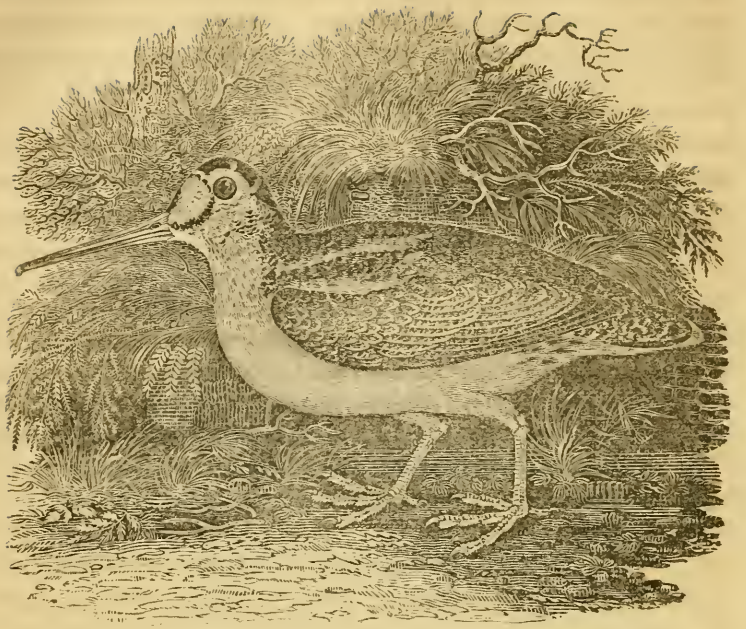
The female larger, and the young similar with the adult. The plumage undergoes no change with the moult; its general colors are a mixture, often intimate, of black, rufous and cinereous.

These are solitary birds, or only associating by pairs or families in the breeding season. They dwell habitually in forests both in the plains and mountains, and frequent shady swamps and thickets; but seldom appear in open grounds. From the greater strength of their less sensitive bills, they are enabled to bore in drier ground than the Snipes, and use this organ often in turning over the fallen leaves and withered grass, in quest of their insect prey. They tend their young with great assiduity, conveying them from danger even by sometimes carrying them on their backs, or in their claws. Their flight is low and direct, accompanied by a whizzing sound, from the labor attending upon it. Although there are but two species known, in either continent, yet they are spread over the whole earth.

Subgenus. — *Microptera, (Rusticola. *Bonap.)*

The *head* more rounded than quadrate. The wings short, and the 3 first primaries very narrow and graduated, the 4th and 5th being longest. Legs less robust, and the hind toe nail slightly projecting over the extremity of the toe.

The American Woodcock seems to afford a link of connection betwixt the *Rusticola* and true *Scolopax.* As in the Snipe, the body is more slender; the head, less elevated at the vertex, is more rounded; the feet rather slender; and the tail, of unequal sized feathers, is graduated to a point. The structure of the wings is very peculiar and characteristic, nothing of the kind existing in the Woodcock of Europe, (now before me.) It is in consequence a bird of more retiring habits, less capable of continued flight, being often sedentary in the countries in which it breeds, and migrating short distances merely over land, as the severity of the winter season increases where it happens to reside. The sexes are very different in size, the female being much larger, but individuals vary much likewise from the abundance or scarcity of their food, and the period of the year in which they have been reared. To show the relative shortness of the wing in a specimen of 13½ inches, it measures, from the shoulder to the point only about 5 inches: in the European Woodcock of 15 inches, the same part of the wing is 7 inches in length.



LESSER WOODCOCK.

(*Rusticola minor*, Nobis. *Scolopax minor*, Gmel. Bonap. Syn. No. 269. Wilson, vi. p. 40. pl. 48. fig. 2. Penn. Arct. Zool. ii. p. 463. No. 365. Phil. Museum, No. . .)

Sp. Charact. — Hind head black, with 3 pale rufous bands; beneath dilute-rufous and without bars; quills plain dusky.

The American Woodcock, like the Snipe, appears again to be a near representative of that of Europe, whose manners and habits it almost entirely possesses, differing, however, materially in the temperature of the climates selected for its residence, confining itself in the summer to the south side of the St. Lawrence, breeding in all the intermediate space as far as the limits of the Middle States, and retiring in winter, for the most part, either to or beyond the boundary of the Union. The European species, on the contrary, court-

ing cooler climates, winters in Great Britain and the north of Europe, and retires as early as March, to breed in the Alps or in the frigid wilds of Sweden, Norway, Russia, and penetrates even to the icy shores of Greenland, and the heaths of Iceland. About the same period, early in March, the American Woodcock revisits Pennsylvania, and soon after the New England or Eastern States. Indeed so sedentary is the species at times, that a few are known to winter in the sheltered forests and open watery glades of Pennsylvania; at the same season also, many are seen in the vicinity of Natchez, in Mississippi. According to their usual habits, they keep secluded in the woods and thickets, till the approach of evening, when they sally forth to seek out springs, paths, and broken soil, in quest of worms and other insects, on which they feed. They now disperse themselves over the country to breed, and indicate their presence in all directions by the marks of their boring bills, which are seen in such soft and boggy places as are usually sheltered by thickets and woods. They also turn over the fallen leaves from side to side with their bills in quest of lurking insects, but never scratch with their feet, though so robust in their appearance. The sensibility possessed by the extremity of the bill, as in the Snipe, is of such an exquisite nature, that they are enabled to collect their food by the mere touch, without using their eyes, which are set at such a distance and elevation in the back part of the head, as to give the bird a remarkable aspect of stupidity. When flushed or surprised in their hiding places, they only rise in a hurried manner to the tops of the bushes, or glide through the under growth to a short distance, when they instantly drop down again, and run out for some space on touching the ground, lurking as soon as they imagine themselves in a safe retreat. At times, in open woods, they fly out straight with considerable vigor and swiftness, but the effort, from

the shortness of the wing, is always attended with much muscular exertion.

Early in April, the Woodcocks in pairs select a spot for breeding, which is generally in or near some retired part of the same woods which usually affords them their food and shelter. The nest is placed on the ground, in a tuft of grass, or in the protection of some old stump. It is formed with little art, of such withered leaves and old grass as the convenience of the place affords; the eggs are 4, rather large, of a dark yellowish-white approaching olive, specked and confluently blotched with three slightly different shades of dark yellowish-brown spots, most numerous at the greater end. Eggs have been found, even in Massachusetts, in sheltered woods, as early as the month of February; but the usual time, according to the age and general appearance of the young, is not before the commencement of April. At this time, in the morning, as well as evening, but more particularly the latter, the male, in the vicinity of his mate and nest, rises successively in a spiral course, like a Lark. While ascending he utters a hurried and feeble warble; but in descending the tones increase as he approaches towards the ground, and then, becoming loud and sweet, passes into an agreeable, quick, and tumultuous song. As soon as the performer descends, the sound ceases for a moment, when with a sort of stifled utterance, accompanied by a stiff and balancing motion of the body, the word *blaìk*, and sometimes *paìp paìp* is uttered. This uncouth and guttural bleating seems a singular contrast to the delightful serenade, of which this is uniformly the close. I heard this piping and bleating in the marshes of West Cambridge, on the 15th of April, and they had arrived about the first week in that month. This nocturnal music continued at regular intervals, and in succession, until near 9 o'clock in the evening, and is prolonged for a number of days during the

period of incubation, probably ceasing with the new cares attendant on the hatching of the brood. The female, as in the European species, is greatly attached to her nest, and an instance is related to me of a hen being taken up from it, and put on again without attempting to fly. Mr. Latham mentions a female of the common Woodcock sitting on her eggs so tamely, that she suffered herself to be stroked on the back without offering to rise, and the male, no less interested in the common object of their cares, sat also close at hand. The European species has had the credit of exercising so much ingenuity and affection, as to seize upon one of its weakly young, and carry it along to a place of security from its enemies. Mr. Ives of Salem, once on flushing an American Woodcock from its nest, was astonished to see that it carried off in its foot one of its brood, the only one which happened to be newly hatched; and as the young run immediately on leaving the shell, it is obvious that the little nursling could be well reared, or all of them, as they might appear, without the aid of the nest, now no longer secured from intrusion. In New England this highly esteemed game is common in the market of Boston to the close of October, but they all disappear in the latter part of December. In this quarter of the Union they are scarcely in order for shooting before the latter end of July, or beginning of August; but from this time to their departure, they continue in good condition for the table.

The springes or springers, set for Woodcocks in Europe, in places they are found to frequent by the evidence of their borings, &c. are commonly formed of an elastic stick, to which is fastened a horse-hair noose, put through a hole in a peg, fastened into the ground, to which a trigger is annexed: and in order to compel the Woodcock to walk into the trap, an extended fence is made on each side, by small sticks, set up close enough to prevent the bird passing

betweeen them; these concentrate at the trap, so that in this funnel-shaped fence, the bird, in feeding, is made to pass through the narrow passage, and is almost to a certainty caught by the legs.

As the season advances, and food begins to fail, by reason of inclement and cold weather, the Woodcocks leave the interior; and approaching the shelter of the sea coast and the neighboring marshes, they now become abundant, and are, at such times, late in autumn, killed in great numbers. These are also their assembling points previous to their southern migrations, which are performed in a desultory and irregular manner, their motions, as usual, being mostly nocturnal, or in the twilight; and though many are now met with in the same low meadows and marshes, they are brought together by common necessity, and never move in concerted flocks. At this season, their movements are not betrayed by any note or call; the vocal powers of the species are only called into existence at the period of propagation; at other times they move and start to wing in silence. The young run or wander off as soon as they are hatched, are at this period covered with a brownish-white down, and, on being taken, utter a slender bleat, or clear and long drawn *péep*.

The American Woodcock, though distinguished by the epithet of *minor*, is at the same time but little inferior to the European species, the female being about 13½ inches from the tip of the tail to the point of the bill; and the male 12 inches measured in the same way. The transatlantic bird is said to measure 15 inches (female?) Wilson, however, gives to the male only 10½ inches, and 12 to the female. Pennant gives 11½ inches to the species without any discrimination of sex. To reconcile these differences, is, I confess, not in my power, but such is the fact, as I have stated, drawn from the specimens *now before me*. The bill of my longer specimen is 2¾ inches in a state of desiccation. Line over the eye, and the whole *under plumage* reddish-tawny, paler on the breast and belly, and brightest on the sides beneath the wings. Chin white. Forehead, sides of the neck nearly to the middle of the throat strongly

tinged with cinereous Line from the eye to the bill blackish. Nape, from the top of the eye backwards, black, crossed by 3 narrow pale rufous bands. Cheeks marked with a faint waving bar of black, on a broadish rufous ground. Back and scapulars deep black, waved and tipped with pale and light rufous-tawny bands, spots and zig-zags; a row of the outer scapulars and dorsal feathers on each side broadly tipped with cinereous, so as to give a very peculiar blotched appearance along the sides of the back; tertiaries and larger coverts dusky, and finely zig-zagged with tawny. Primaries dusky, the 3 narrow outermost edged with tawny-white. Tail intensely black, each feather spotted on the edge, and terminated with a narrow rufous subterminal bar, beyond which, they each end in a sort of oval dusky ash-colored tip, which is of a bright silvery white beneath. Long axillaries, and lining of the wing, rufous, with the exception of a few broad lead-colored posterior feathers, with faint marginal tawny spots. Under tail coverts long, thick and fibrous, the lowest deep rust color, broadly tipped with white. Upper tail coverts very similar to the tail, but with larger dilute rufous spots, and fewer and smaller silvery tips. Feathers of the back, under the wings, black, with the same marginal small rufous spots and tips: lateral tail coverts bright tawny, with faint zig-zag bars of black. Legs and feet pale reddish flesh-color. Eye black and full.

The innumerable bars and zig-zags all over the plumage of the European Woodcock both above and below, as well as on the quills, are striking traits of external distinction from our bird, which has not a single bar or spot below, nor on the primaries. The tail of the European bird is also less graduated, and the feathers all of a breadth; the rump likewise is bright rufous, with slender dusky bars, and not black. Of the very different feet, wings, and head, we have already spoken, and which appear amply sufficient to form a subgenus.

RAILS. (Rallus, *Lin.*)

In this family of birds the bill, varying in length, is thick at the base, and generally straight and compressed; the upper mandible is furrowed on each side, somewhat arched, and curved at the extremity, with its base extending upwards between the feathers of the

forehead. Nostrils situated in the furrow of the bill, above its base, oblong or longitudinal, pervious, and covered at base by a membrane. *Tongue*, narrow, acute, and fibrous at tip. Forehead feathered. *Legs*, naked space above the knee, small; toes wholly divided; hind toe equal to a single joint of the middle one, and inserted a little higher than the rest. *Wings* moderate, rounded; the 1st primary shorter than the 2d, 3d, and 4th, which are longest. Tail very short, of 12 rather feeble feathers, not extending beyond their coverts.

The plumage of the sexes, is, in general, nearly similar; but the young differ, in this respect, from the adult. The moult takes place twice in the year, without any change in the livery. The body is much compressed.

The Rails are shy, solitary, and very timid birds, generally residing in reedy and sedgy marshes, in the vicinity of fresh and still waters, provided with a deep covert of shrubs, rushes and rank herbage. When surprised they run much oftener than fly, and skim over watery places with great agility, on the surface of the leaves of aquatic plants, rather than swim, which they seldom do from choice, though they also dive well, if necessary, or when wounded and can remain long under the water. Though their flight is ordinarily so limited, they yet perform extensive migrations. They walk with ease and swiftness; and rarely alight any where but on the ground. As they are chiefly nocturnal in their motions, they remain concealed throughout the greatest part of the day, chiefly in wet and grassy places, and turn out in quest of food in the morning or evening, or by the advantage of the moonlight. In the breeding season, however, the monogamous parents and the brood they have jointly hatched, are not unfrequently seen abroad by day. They breed in marshes and thickets, nesting near waters, sometimes even forming a nest to float, and attaching it to the contiguous reeds. They feed upon worms, soft insects, as well as upon vegetables, and their seeds. Species are found to inhabit every part of the world.

Subgenus. — Rallus, *(Bonap.)*

The *bill* longer than the head, rather slender, somewhat curved, compressed at base, rather blunt at the point: upper mandible furrowed beyond the middle: *nostrils* almost basal and linear.

CLAPPER RAIL.

(*Rallus crepitans*, Gmel. Bonap. Syn. No. 270. Wilson, vii. p. 112. pl. 62. fig. 2. [adult.] Penn. Arct. Zool. No. 407. Phil. Museum, No. 4400.)

Sp. Charact. — Black, skirted with olive-brown, beneath rufous; throat white; wing coverts chestnut; first primary edged externally with pale rusty. Length 14 inches. — *Young*, greenish-ash, beneath whitish.

The Clapper Rail is a numerous and well known species in all the Middle and Southern States, but is unknown in this part of New England, or in any direction further to the north, being unnoticed by Richardson in his Northern Zoology. According to Wilson, it arrives on the coast of New Jersey about the 20th of April, and probably winters within the southern boundaries of the Union, or in the marshes along the extensive coast of the Mexican Gulf, as they are seen by February on the shores of Georgia, in great numbers. In the course of their migrations, in the hours of twilight, they are often heard on their way, in the spring, by fishermen and coasters. Their general residence is in salt marshes, occasionally penetrating a short distance up the large rivers, as far as the bounds of tide water. In the vast flat and grassy marshes of New Jersey, intersected by innumerable tide-water ditches, their favorite breeding resorts, they are far more numerous than all the other marsh fowl collectively.

The arrival of the Mud Hen (another of their common appellations,) is soon announced through all the marshes, by its loud, harsh and incessant cackle, heard principally in the night, and is most frequent at the approach of a storm. About the middle of May they commence laying, dropping the first egg into a slight cavity scratched for its reception,

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and lined with a small portion of dry grass, as may be convenient. During the progress of laying the complement of about 10 eggs, the nest is gradually increased, until it attains about the height of a foot; a precaution or instinct which seems either to contemplate the possibility of an access of the tide water, or to be a precaution to conceal the eggs or young, as the interest in their charge increases. And indeed to conceal the whole with more success, the long sedge grass is artfully brought together in an arch or canopy, but, however this art and ingenuity may succeed in ordinary cases, it only serves to expose the nest to the search of the fowler, who can thus distinguish their labors at a considerable distance. The eggs, more than an inch in breadth, and about $1\frac{3}{4}$ in length, are of the usual oval figure; of a yellowish-white or dull cream color, sparingly spotted with brown-red, and a few other interspersed minute touches of a subdued tint, bordering on lilac-purple; as usual there are very few spots but towards the obtuse end. The eggs are much esteemed for food, being frequently collected by the neighboring inhabitants, and so abundant are the nests in the marshes of New Jersey, that a single person, accustomed to the search, has been known to collect a hundred dozen in the course of a day. Like other gregarious and inoffensive birds, they have numerous enemies besides man; and the crow, fox, and minx, come in for their share, not only of the eggs and young, but also devour the old birds besides. From the pounce of the hawk they can more readily defend themselves by dodging and threading their invisible paths through the sedge. The nature of the ground they select for their nurseries, and its proximity to the sea, renders their thronging community liable also to accidents of a more extensively fatal kind; and sometimes after the prevalence of an eastwardly storm, not uncommon in the early part of June, the marshes become inundated by the access

of the sea, and great numbers of the Rails perish; at least, the females, now sitting, are so devoted to their eggs, as to remain on the nest and drown, rather than desert it. At such times, the males, escaping from the deluge, and such of their mates as have not yet begun to sit, are seen by hundreds, walking about, exposed and bewildered, while the shores, for a great extent, are strewed with the dead bodies of the luckless females. The survivors, however, wasting no time in fruitless regret, soon commence to nest anew, and sometimes, when their nurseries have been a second time destroyed by the sea, in a short time after, so strong is the instinct and vigor of the species, that the nests seem as numerous in the marshes, as though nothing destructive had ever happened.

The young of the Clapper Rail are clad, at first, in the same black down as those of the Virginian species, and are only distinguishable by their superior size, by having a spot of white on their auriculars, and a line of the same color along the side of the breast, belly, and fore part of the thigh. They run very nimbly through the grass and reeds, so as to be taken with considerable difficulty, and are thus, at this early period, like their parents, without the aid of their wings, capable of eluding almost every natural enemy they may encounter. Indeed, the principal defence of the species seems to be in the vigor of their limbs, and the compressed form of their bodies, which enables them to pass through the grass and herbage with the utmost rapidity and silence. They have also their covered paths throughout the marshes, hidden by the matted grass, and through which they run like rats without ever being seen; when close pressed, they can even escape the scent of a dog, by diving over ponds or inlets, rising, and then again vanishing with the silence and celerity of something supernatural. In still pools it swims pretty well, but not fast, sitting high on the

water, with the neck erect, and striking with a hurried rapidity, indicative of the distrust of its progress in that element, which it immediately abandons on approaching the leaves of any floating plants, particularly the pond lilies, over whose slightly buoyant foliage it darts with a nimbleness and dexterity that defies its pursuers, and proves, that however well it may be fitted for an aquatic life, its principal progress, and that on which it most depends, when closely followed, is by land rather than in the air or the water. When thus employed, it runs with an outstretched neck and erected tail, and like the wily Corn Crake, is the very picture of haste and timidity. On fair ground, they run nearly as fast as a man. When hard pushed, they will betake themselves sometimes to the water, remaining under for several minutes, and holding on closely to the roots of grass or herbage, with the head downwards, so as to render themselves generally wholly invisible. When roused at length to flight, they proceed almost with the velocity and in the manner of a duck, flying low, and with the neck stretched; but such is their aversion to take wing, and their fondness for skulking, that the marshes in which hundreds of these birds reside, may be crossed without ever seeing one of them; nor will they rise to a dog till they have led him into a labyrinth, and he is on the very point of seizing them.

The food of the Clapper Rail consists of various insects, small univalve shell-fish, and crustacea (minute crabs, &c.) Their flesh is dry, tastes sedgy, and is far inferior in flavor with that of the Common Rail or Soree. Early in October they retire to the south, and probably migrate in the twilight, or by the dawn of morning.

This species measures 14 inches in length, and 18 in alar extent. The bill $2\frac{1}{4}$ inches, of a reddish-brown color. Irids dark red. Crown, neck and back, black, streaked with dusky-brown. Chin, and line

over the eye, brownish-white: auriculars dusky. Neck before, and whole breast, red-brown. Wing coverts deep chestnut. Primaries plain dusky. Flanks and vent black, tipped or barred with white. Legs reddish-brown. The sexes nearly alike in plumage.

LESSER CLAPPER RAIL.

(*Rallus virginianus*, Lin. Virginian Rail, Wilson, vii. p. 109. pl. 62. fig. 1. Penn. Arct. Zool. No. 408. Edwards, 279. Lath. Synops. iii. p. 228. No. 1. var. *A*. Phil. Museum, No. 4426.)

Sp. Charact. — Black, skirted with olive-brown; beneath rufous; throat white; wing coverts chestnut; first primary entirely dusky. Length 10 inches. — *Female* and *young* much paler.

The Virginian or Lesser Clapper Rail, scarcely distinguishable from the preceding but by its inferior size, is likewise a near representative of the Water Rail of Europe, with whose habits in all respects it nearly agrees. But in every part of America it appears to be a rare species compared with the Mud Hen, or common Clapper Rail. It is also wholly confined to the fresh-water marshes, and never visits the borders of the sea. In New Jersey it is indeed ordinarily distinguished as the Fresh-Water Mud Hen; so constant is this predilection, connected probably with its choice of food, that when met with in salt marshes, it is always in the vicinity of fresh-water springs, which ooze through them, or occupy their borders. From this peculiarity in its choice of wet grounds, it is consequently seen in the interior, in the vicinity of bogs and swampy thickets, as far west as the states of Ohio, Kentucky, and probably Illinois and Michigan. Its migrations, however, along the neighborhood of the coast, do not extend probably further than the shores of the St. Lawrence, as it is unknown in the remote fur countries of the north, and retires from

the Middle States in November, at the commencement of frost. It revisits Pennsylvania early in May, and is soon after seen in the fresh marshes of this part of Massachusetts. How far they retire, in the course of the winter, towards the south, is yet unknown, though from its absence, apparently from the warmer parts of the continent, it probably migrates little farther than the southern extremity of the Union. Its habit of closely hiding in almost inaccessible swamps and marshes, renders it a difficult task even to ascertain its presence at any time; and, like the preceding, it skulks throughout most part of the day in the long sedge and rushes, only venturing out to feed in the shade and obscurity of the twilight. Its food is most commonly marsh insects and their larvæ, as well as small worms and univalve shell-fish, rarely, if ever, partaking of vegetable diet.

The Virginian Rail commences laying soon after its arrival, in the early part of May. The nest, situated in the wettest part of the marsh, is fixed in the bottom of a sedgy tussock, and composed of withered grass and rushes. The eggs, from 6 to 10, are almost exactly of the form and color of those of the preceding species, and are equally similar with those of the European Water Rail, being of a dirty white, or pale cream color, sprinkled with specks of brownish-red and pale purple, most numerous at the great end. In the Middle States, they are believed to raise two broods in the season. The female is so much attached to her eggs, after sitting, as sometimes to allow of being taken up by the hand rather than desert the premises, which affection appears the more necessary, as the male seems to desert his mate, and leave her in the sole charge of her little family.

About the 18th of June, in this vicinity, in a wet part of the salt marsh, making into a fresh meadow, near Charles' River, one moonlight evening as late as 9 o'clock, I heard a busy male of this species, calling out at short intervals, in

a guttural, creaking tone, almost like the sound of a watchman's rattle, *'kut-ă-cút tee-àh*, the call sometimes a little varied. At this time, no doubt, his mate was somewhere sitting on her eggs, in some tuft of the tall marine grass *(Spartina glabra,)* which overhung the muddy inlet near which he took his station. The young, for some time after being hatched, are covered wholly with a jet black down, and running with agility, are now sometimes seen, near the deep marshes, straying into the uplands and drier places, following the careful mother much in the manner of a hen with her brood of chickens. When separated from the parent, at a more advanced age, their slender *peep, peep, peep* is heard, and soon answered by the attentive parent. The female, when startled in her watery retreat, often utters a sharp squeaking scream, apparently close at hand, which sounds like *'keek, 'keek, 'kek;* on once approaching, as I thought, the author of this discordant and timorous cry, it still slowly receded, but always appeared within a few feet of me, and, at length, pressing the pursuit pretty closely, she rose for a little distance, with hanging legs, and settled down into a ditch, among some pond lily leaves, over which she darted, and again disappeared in her paths through the tall sedge, screaming at intervals, as I now found, to give warning to a brood of young, which had at first probably accompanied her, and impeded her progress.

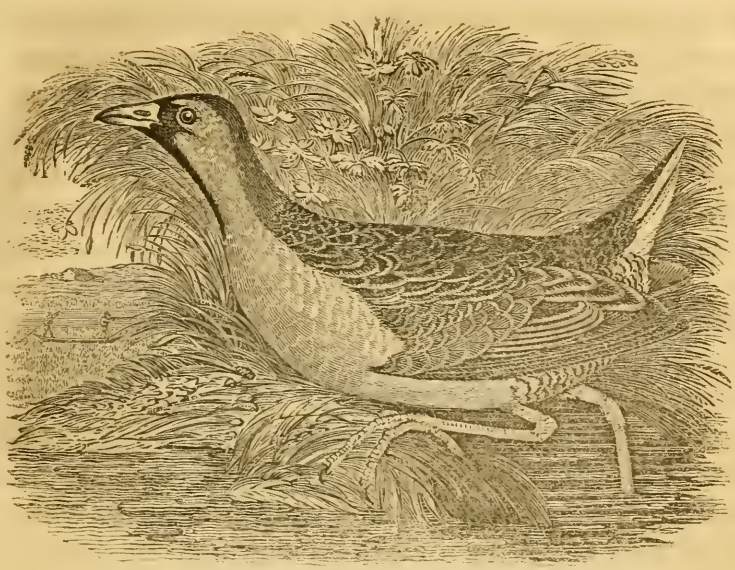
When seen, which is but rarely, the Virginian Rail, like the other species, stands or runs, with the neck outstretched, and with the short tail erect, and frequently jerked. They are never seen to perch on trees or shrubs, and are most of the time on their feet. Their flesh is scarcely inferior to that of the Common Rail, but their scarcity and diminutive size, relieve them from much attention as game. Late in autumn, a little time previous to their departure, they occasionally wander out into the neighboring salt marshes, sit-

uated at a distance from the sea, a route by which, in all probability, they proceed in a solitary and desultory manner towards the milder regions of the south. At this time also, they often roost among the reeds, by ponds, in company with the different kinds of black birds, clinging, no doubt, to the fallen stalks, on which they pass the night over the water. They swim and dive also, with ease and elegance; but like their whole tribe, of Long-Footed Birds, they are swiftest on land, and, when pushed, depend upon their celerity over the covered marsh as a final resort.

The Small Mud Hen is about 10 inches in length; and 14 in alar extent. The bill near $1\frac{3}{4}$ inches long, dusky above, bright yellowish-brown below. Iris red. Cheeks and stripe over the eye, ash: over the lores, and at the lower eye-lid white. Crown, and all the upper parts black, the feathers edged with olive-brown, more broadly on the back and scapulars, which last are scarcely longer than the ordinary feathers of the back. Wing coverts chestnut. Quills all plain deep dusky. Chin white. Throat, breast and belly, reddish-brown. Sides and vent black, with distant transverse white bars. Under tail coverts white, with pale brownish edges, and oblong black spots along the shafts; shoulder of the wing and the feathers of its lining, edged with white. Legs and feet dusky reddish-brown: the tarsus $1\frac{1}{4}$ inches; the middle claw, with its nail, $1\frac{3}{4}$ inches. — The *female* is about half an inch shorter, with the breast much paler, and with more white on the chin and throat.

Subgenus. — Crex. *(Bonap.)*

The *bill* shorter than the head, robust, much higher than wide at the base, tapering, compressed, and acute at the point; upper mandible furrowed at base only, a little curved at the extremity; lower navicular; nostrils oblong, medial. — These birds, with the aspect of our domestic fowls, live as much on vegetables as animals.



CAROLINA RAIL.

(*Rallus carolinus*, Bonap. Syn. No. 272. Rail, Wilson, vi. p. 27. pl. 48. fig. 1. [male.] *Gallinula carolina*, Lath. Ind. ii. p. 771. sp. 17. Soree Gallinule, Penn. Arct. Zool. ii. p. 491. No. 409. Soree, Catesby, i. p. 70. Little American Water Hen, (*Gallinula minor,*) Edw. pl. 144. *Le Râle de Virginie*, Buff. Ois. viii. p. 165. Phil. Museum, No. 4426.)

Sp. Charact. — Varied with olive-brown and black; feathers of the back and wings penciled with white margins; breast and flanks mostly slate color, the latter waved with white; edge of the 1st primary white. — *Male* with the centre of the throat black. In the *female* and *young* the throat is white.

The Soree, or Common Rail of America, which assemble in such numbers on the reedy shores of the larger rivers, in the Middle and adjoining warmer States, at the approach of autumn, and which afford such abundant employ to the sportsman, at that season, like most of the tribe to which it belongs, is a bird of passage, wintering generally south of the limits of the Union. They begin to make

their appearance, in the marshes of Georgia, by the close of February; and, on the 2d of May, Wilson observed them in the low watery meadows below Philadelphia. In the remote fur countries of the north, up to the 62d parallel, they are common through the summer, and were observed by Dr. Richardson to be particularly abundant on the banks of the small lakes, that skirt the Saskatchewan plains. In the vast reedy marshes, swamps and lagoons, of these desolate regions, the greater part of the species are no doubt reared, as but few of them are ever known to breed in the warmer parts of the continent, and the history of their manners, at the period of incubation, is, therefore, still a blank. The observations of persons not conversant with the nice distinctions necessary in natural history, ought to be received with caution, as they might easily confound the mere young of the present and the preceding species, as one and the same. The alleged nest, eggs, and young birds covered with a black down, mentioned by Wilson, agree perfectly with the Virginian Rail; but the length of the bill, and any other discriminating particulars are wholly omitted. We may conclude, therefore, up to the present time, that the actual young and nest of the Soree are yet unknown, and that all which has been said on this subject is but conjecture, or a misapplication of facts belonging to the preceding species.

Like the other migrating waders, the Rails, accompanied by their swarming broods, bred in the north and west, begin to show themselves on the reedy borders of the Delaware, and other large waters of the Middle States, whose still and sluggish streams, spreading out over muddy flats, give birth to an abundant crop of the seeds of the Wild Rice,* now the favorite food of the Rails and the Rice

* *Zizania aquatica*, and *Z. clavulosa*, the latter species most prevalent in the western waters.

Birds.* On first arriving, from the labor and privation incident to their migrations, they are lean, and little valued as food; but as their favorite natural harvest begins to swell out and approach maturity, they rapidly fatten; and, from the middle of September to the same time in October, they are in excellent order for the table, and eagerly sought after wherever a gun can be obtained and brought into operation.

Walking by the borders of these reedy rivers, in ordinary seasons, you hear, in all directions, the crowding Rails squeaking like young puppies. If a stone be thrown in amongst them, there is a general outcry through the reeds, a confused and reiterated *'kuk 'kuk 'kuk 'k'k 'k'k*, resounds from the covered marsh, and is again renewed by the timid throng, on the discharge of a gun or any other sudden noise within their hearing. The Rails, however numerous, are scarcely visible, unless it be at or near to high water; for when the tide is down, they have the art so well to conceal themselves among the reeds, that you may walk past and even over them, where there are hundreds, without seeing probably a single individual.

The flight of the Rails, while confined among the rice reeds, is low, feeble and fluttering, with the legs hanging down, as if the effort were unnatural and constrained, which may, no doubt, at times, be produced by the extreme corpulency which they attain in a favorable season for food; yet, occasionally, they will rise to a considerable height, and cross considerable streams without any reluctance or difficulty; so that however short may be their wings, the muscles by which they are set in motion are abundantly sufficient to provide them the means of pursuing the deliberate stages of their migratory course. Wherever the

* The name given to the Bobolinks and their brood, when in their Sparrow dress (*Icterus agripennis.*)

Zizania and its nutritious grain abounds, there the Rails are generally seen. In the reedy lakes of Michigan, as well as the tide-water streams of the Atlantic, these birds are found congregated, in quest of their favorite food. In Virginia, they are particularly abundant along the grassy banks of James' River, within the bounds of tide water, where they are often taken in the night, while perched among the reeds; being stupified by the glare of a fire carried in among them, they are then easily approached by a boat, and rudely knocked on the head with a paddle; sometimes in such quantities, that three negroes, in as many hours, have been known to kill from 20 to 80 dozen.

Fear seems to be a ruling passion among the whole tribe of Rails and their kindred allies; with faculties for acting in the day, timidity alone seems to have rendered them almost nocturnal in their actions; their sole address and cunning seems entirely employed in finding out means of concealment; this is particularly the case when wounded; they then swim out and dive with so much caution as seldom to be seen again above water; they even cling with their feet to the reeds beneath that element, where they would sooner endure suffocation than expose themselves with any chance of being seen; they often also skulk, on ordinary occasions, under the floating reeds, with nothing more than the bill above water. At other times, when wounded, they will dive, and rise under the gunwale of the sportsman's boat, and secreting themselves there, have the cunning to go round as the vessel moves, until, given up as lost, they find an opportunity of completing their escape.

According to the observations of Mr. Ord, the females, more particularly, are sometimes so affected by fear, or some other passion, as to fall into sudden fits, and appear stretched out as lifeless, recovering, after a while, the use of their faculties, and falling again into syncope, on merely

presenting the finger in a threatening attitude. At such times, and during their obstinate divings, they often fall victims, no doubt, to their enemies in the watery element, as they are sometimes seized by eels and other voracious fish, who lie in wait for them; so that the very excess of their fear and caution hurries them into additional dangers, and frustrates the intention of this instinct for preservation. The swooning, to which they appear subject, is not uncommon with some small and delicate irritable birds, and Canaries are often liable to these death-like spasms, into which they also fall at the instigation of some immaterial or trifling excitement of a particular kind.

During the greater part of the months of September and October, the market of Philadelphia is abundantly supplied with this highly esteemed game, and they are usually sold at from 50 cents to a dollar the dozen. But soon after the first frosts of October, or towards the close of that month, they all move off to the south. In Virginia, they usually remain until the first week in November. In the vicinity of Cambridge, (Mass.) a few, as a rarity only, are now and then seen in the course of the autumn, in the *Zizania* patches which border the outlet of Fresh Pond; but none are either known or suspected to breed in any part of this state, where they are, as far as I can learn, every where uncommon.

The usual method of shooting Rail on the Delaware, according to Wilson, is as follows. The sportsman proceeds to the scene of action in a batteau, with an experienced boatman, who propels the boat with a pole. About two hours before high water, they enter the reeds, the sportsman taking his place in the bow ready for action; while the boatman on the stern seat pushes her steadily through the reeds. The Rails generally spring singly, as the boat advances, and at a short distance ahead, are instantly shot

down, while the boatman, keeping his eye on the spot where the bird fell, directs the vessel forward, and picks it up as the gunner is loading. In this manner the boat continues through and over the wild-rice marsh, the birds flushing and falling, the gunner loading and firing, while the helmsman is pushing and picking up the game; which sport continues till an hour or two after high water, when its shallowness, and the strength and weight of the floating reeds, as also the unwillingness of the game to spring as the tide decreases, oblige them to return. Several boats are sometimes within a short distance of each other, and a perpetual cracking of musketry prevails along the whole reedy shores of the river. In these excursions, it is not uncommon for an active and expert marksman to kill ten or twelve dozen in the serving of a single tide.

The Soree or Rail is about 9 inches or a little more in length: and 14 in alar extent. The bill yellow, blackish towards the point above, a little more than $\frac{3}{4}$ of an inch long, and a little short of $\frac{1}{2}$ an inch in vertical breadth. Lores, front, crown in the centre, chin, and stripe down the throat, black. Line over the eye curved to the front, cheeks and breast clear ash color. Sides of the crown, and upper parts generally brown-olive, the feathers largely centered with black on the back, scapulars and tertiaries, which feathers are elegantly marked with subterminal lateral borders of pure white, but broadly tipt with brown-olive, (in some specimens a few of the larger tertiaries are spotted and partly barred with white on their outer webs.) The sides of the head, neck, and the wing coverts are almost wholly brown-olive. Wing plain dusky olive-brown; the exterior edge white. Tail pointed, dusky-brown olive, faintly centered with black; the two or four middle feathers, for half their length, faintly bordered on the inner webs with white. *Under plumage;* lower part of the breast marked with transverse curving bars of white on a light ash ground. Centre of the belly white, sides barred with black and white, with a mixture of olive-brown. Vent buff. Legs and feet yellowish-green. Middle toe with its nail $1\frac{3}{4}$ inches; nail much compressed and hooked; tarsus 1 inch 3 to 4 lines. Irids reddish hazel.

The *female* and *young of the year* have the throat nearly white, the breast pale brown, and little or no black on the head. The young are also much smaller, and the pale brown tint prevails over all the lower plumage, with a slight indication of ash only on the throat: the front and sides of the head are also brown. The rump and adjoining part of the sides is much brighter rufous than in the adult.

YELLOW-BREASTED RAIL.

(*Rallus noveboracensis*, Bonap. Syn. No. 373. Am. Orn. iv. p. 136. pl. 27. fig. 2. [young.] *Gallinula noveboracensis*, Lath. ii. p. 771. sp. 16. *Fulica noveboracensis*, Gmel. Syst. i. p. 701. sp. 15. *Perdix hudsonica?* Ibid. ii. p. 655. sp. 41. *Yellow-Breasted Gallinule*, Lath. and Penn. Arct. Zool. ii. p. 491. No. 410. *Rallus ruficollis*, Vieill. Gal. des Ois. p. 168. t. 266. American Museum, in New York.)

Sp. Charact. — Black, skirted with pale olive-brown, and varied all over with narrow transverse white bars; beneath yellowish-brown and waved; lower wing coverts and a great part of the secondaries, white — *Female* duller, and the legs lineated.

The Yellow-Breasted Rail, though found sparingly in many parts of the Union, and in Canada, is every where rare. It has been met with, apparently, as a mere straggler in the vicinity of New York and Philadelphia, in the depth of winter; and has likewise been seen in Missouri, probably on its spring passage towards the north. Where it winters, whether in the Southern States, or in still milder climes, is yet unknown.

Mr. Hutchins, in a manuscript, written as far back as 1777, quoted by Dr. Richardson in his Northern Zoology, says, "This elegant bird is an inhabitant of the marshes" on the coast of Hudson's Bay, near the mouth of Severn River, "from the middle of May to the end of September. It never flies above 60 yards at a time, but runs with great

rapidity among the long grass near the shores. In the morning and evening it utters a note, which resembles the striking of a flint and steel; at other times it makes a shrieking noise. It builds no nest, but lays from 10 to 16 white eggs, among the grass." It is evident, therefore, that the Yellow-Breasted Rail is principally a northern species, which migrates mostly through the western interior of the continent, and is therefore very rare in the Atlantic States. According to the Prince of Musignano, it has also been seen in marshy situations around Athabasca Lake.

Like all the other species, the present inhabits swamps, marshes, and the reedy margins of ditches and lakes. In the vicinity of West Cambridge, and the vast extent of wet marsh-land, which stretches over the face of the country, and is but rarely visited by man, among the Virginian Rails, and a few stragglers of the Soree, we occasionally meet with this small and remarkable species. The first ever brought to me, late in autumn, was surprised while feeding on insects or seeds, by the margin of a small pool, overgrown with the leaves of the water lily *(Nymphæa odorata.)* Without attempting either to fly or swim, it darted nimbly over the floating leaves, and would have readily escaped but for the arrest of the fatal gun, which baffled its cunning and precaution; when wounded it also swims and dives with great address. According to Mr. Ives, they are frequently met with, at this season, in the marshes in the vicinity of Salem.

On the 6th of October (1831,) having spent the night in a lodge, on the borders of Fresh Pond, employed for decoying and shooting ducks, I heard, about sunrise, the Yellow-Breasted Rails begin to stir among the reeds *(Arundo phragmitis)* that thickly skirt this retired border of the lake, and in which, among a host of various kinds of Blackbirds, they had for some time roosted every night. As soon

as awake, they called out in an abrupt and cackling cry, *'krèk, 'krèk, 'krèk, 'krèk, 'kŭk 'k'kh,* which note, apparently from the young, was answered by the parent (probably the hen,) in a lower soothing tone. The whole of these uncouth and guttural notes have no bad resemblance to the croaking of the tree frog, as to sound. This call and answer, uttered every morning, is thus kept up for several minutes in various tones, till the whole family, separated for the night, have met and satisfactorily recognised each other. These are, no doubt, migrating broods, who have arrived from the north, about the time stated for their departure by Mr. Hutchins. By the first week in November, their cackling ceases; and as they seem to migrate hither without delay, and with great expedition, for a bird with such short wings; it is probable they proceed at once to the swamps of the Southern States, and soon after to, or beyond the boundaries of the Union.

The length of the Yellow-Breasted Rail is about 7½ inches. The young scarcely 6 inches. The bill ¾ of an inch long from the rictus, much compressed, dusky-green, with the base and ridge near the front, dull yellowish-orange. Iris hazel. Feet soiled flesh color. Tarsus 1 inch. Middle toe an inch and one eighth long. Summit of the head and back, black, the latter more broadly skirted with yellowish-brown, with each feather crossed by two narrow white bands: hind part of the head dotted with white. Broad line over the eye pale yellowish-brown, and dotted with dark brown. The feathers of the nape, sides of the neck and rump, with only the terminal band of white. Wings when closed extending to the tip of the tail: upper wing-coverts dusky, margined with olive-ferruginous, each with two white narrow bands. Quills dusky; secondaries nearly all white except the first, which is dusky on the outer web, and the last, which is mottled with the same; scapulars black, very widely bordered with yellowish-brown, crossed by two to three white equidistant lines. Tail black, very short, the feathers with two and three white lines, and pale ferruginous at the sides. *Lower plumage,* sides of the neck and breast, yellowish-brown, each feather

being tipt with a darker tint, giving a waved appearance to those parts. Throat and belly whitish: flanks and thighs dusky, mixed with pale brown, the feathers furnished with two or three white transverse lines, as on the back. Under tail-coverts pale rufous. The young, for some time after hatching, as in the other species, are covered with a black down. When fully grown, they are still much smaller than the adults, have the bars about the head much more distinctly marked; the under parts darker and more clouded, with a general reddish tint prevalent over the lower parts and the skirting of the upper plumage; there are also fewer white bars on the tail and large feathers, and the black of the adult is yet only chocolate-brown. But the most decisive mark is the absence of most of the white on the secondaries, which is only indicated by 2 or 3 irregular spots on the first of them, and on the last of the primaries.

GALLINULES. (Gallinula, *Lath.*)

In these birds, which closely resemble the Rails, the bill is shorter than the head, much higher than wide, compressed, straight; both mandibles furrowed, the upper covering the margins of the lower, inclined at the point, the base spreading out into a naked space advancing upon the forehead. Nostrils in the furrow of the bill, medial, lateral, oblong, pervious, half closed by a turgid membrane. *Feet*, a small naked space above the knee, anterior toes very long, wholly divided, bordered by a narrow membrane: hind toe bearing on the ground with several joints; nails acute and compressed. *Wings* concave, rounded; 1st primary shorter than the 5th; 2d and 3d longest. Tail short, and nearly covered.

The two sexes nearly alike in plumage, the males merely a little brighter colored, and with the frontal clypeus more extended. The young differ from the adult, till the completion of the year; and individuals vary much in size. The moult is annual.

The Gallinules, or Water Hens, so called from their quaint resemblance to our common domestic fowls, associated by pairs or broods, lead almost a nocturnal life, hiding themselves in the thick herbage of the marshes, where they dwell by day, and disporting and feeding towards evening, and in the early twilight. They reside near fresh

waters, about rivers and pools, in wet and inundated districts; they also take to the water habitually, and swim with ease, in a singular flirting manner, continually striking the water with their tails: when approached and alarmed, they have recourse to diving, at such times using their wings as fins, but never feed in this manner. The Water Hens are sedentary, no less from the incapacity of their short wings for undertaking migrations, than from original disposition, they are therefore found to inhabit warm and temperate climates, in which they can obtain a constant supply of their varied food. Bred sometimes in elevated inland districts, the old and young, merely in quest of food and shelter, move occasionally into the sheltered plains and marshes, and perform their migrations by night. Like the Rails, they depend much more on the use of their legs than wings, running with rapidity through covert and entangled herbage, in which they are assisted by the compressed form of their bodies allowing them to pass through the narrowest openings, and sometimes, rather than trust to the tardy progress of swimming, they skip over considerable sheets of still water on the yielding surface of aquatic foliage. They are naturally restless, and, when running, always in the advancing posture of extreme haste, they elevate the tail. They feed on small fish, insects and vegetables, and seldom leave the pool or still river while it continues to afford them food, and are particularly attached to such, whose shady and sedgy borders nourish a supply of their usual fare. They are very prolific, and yet from the various destructive accidents to which they are exposed, are by no means a numerous race; they lay two or three times in the year, at first as many as 10, the latter broods, however, consist usually of only about 5 or 6 eggs; these are usually olivaceous, with rufous spots. The nest is made of rushes, flags, or other coarse herbage, brought together in considerable quantities, and placed near the surface of the water, on some branch, bush or stump; the hen is said to cover the eggs with herbage on leaving them, to feed; she sits about three weeks, and the young, at first covered with black down, run and swim as soon as hatched, but remain for some time under the careful guidance and protection of the mother, and are so well concealed that it is rarely possible to surprise them; for some time after birth the parent conducts them to and from the nest, where she broods and defends them with all the care of a domestic hen. But the very element, on which instinct so strongly leads them to rely, and in which they are usually so secure, not unfrequently proves their destruction, as their eggs, placed so near the

water, are often swept away by the floods of summer, and many of the young are destroyed by rapacious fish, and particularly by the pike. The flight of the Gallinules, except when they rise high in the air, is slow and limited, so that they have only recourse to it in extremities; it is also performed in a peculiar heavy manner, with the legs hanging down, and not stretched out as in other waders. Their voice is strong, but guttural and unpleasant; and their flesh is, by most, considered palatable. — The genus consists of five or six very similar species, spread over all the warm and temperate climates of the globe. The only race remarkably distinguished by its different plumage is the *G. martinica*, which, in the brilliancy of its vesture, approaches the nearly related *Porphyriones*, or Sultanas.

PURPLE GALLINULE.

(*Gallinula martinica*, Gmel. Bonap. Syn. No. 274. Lath. Ind. p. 769. No. 9. *Fulica martinica*, Lin. (ed. 12.) i. p. 259. sp. 7. *Gallinula porphyrio*, Wilson, ix. p. 67. pl. 73. fig. 2. Phil. Museum, No. 4294.)

Sp. Charact. — Lower wing coverts blue; all the under tail coverts pure white: no colored circle around the tibia. — *Adult*, purple, back and tail green; the sides of the neck and wings blue. The *young* varied with dull purplish and dusky; beneath with black and white.

This very splendid, but incongruous species of Gallinule, is, in the United States, a bird of passage, wintering

in tropical America, and passing the summer, or breeding season in the marshes of Florida and the contiguous parts of the State of Georgia, where it arrives in the latter part of April, retiring south with its brood, in the course of the autumn, and probably winters, according to its habits, in the swampy maritime districts along the coast of the Mexican Gulf. An instance is given by Mr. Ord, of one of these birds being driven out to sea, and taking shelter on board of a vessel bound from New Orleans to Philadelphia, while in the gulf. This happened on the 24th of May, and therefore could only have been a bewildered straggler, accidentally carried out to sea without any intention of migrating; nor is it probable that a bird of such short wings as those which characterize the genus, would make the attempt to travel any considerable distance over sea, while a route by land, equally favorable for the purpose, offered. Little reliance, therefore, is to be placed upon these accidents, as proving the maritime migratory habits of birds. Several hundred miles from land, towards the close of last June, (1833,) in the latitude of the Capes of Virginia, the vessel in which I was sailing for the port of New York, was visited by two or three unfortunate Swallows, who, overcome by hunger and fatigue, alighted for a while on the rigging of our ship, from whence they, in all probability, proceeded farther out to sea and perished. At this season of the year they could not be migrating, but had wandered out upon the barren bosom of the deceiving ocean, and would, in consequence of exhaustion and famine, soon after fall a prey to the remorseless deep.

The Martinico Gallinule, while in the Southern States, frequents the rice fields, rivulets, and fresh water pools, in company with the more common Florida species. It is a vigorous and active bird, bites hard when irritated, runs with agility, and has the faculty, like the Sultanas, of hold-

ing on objects very firmly with its toes, which are very long, and spread to a great extent. When walking, it jerks its tail like the common Gallinule. In its native marshes it is very shy and vigilant, and continually eluding pursuit, can only be flushed with the aid of a dog.

The length of the Purple Gallinule is 14 inches. Bill 1¼ inches, vermilion-red, greenish-yellow at the tip. Irids pale blood-red. Naked crown dull azure blue. Head, part of the neck, throat, and breast, of a rich violet-purple. Back and scapulars olive-green. Rump, tail, and its coverts, brownish-green. Sides of the neck and wings, bright blue, the latter tinged with green: shoulders of the wings rich azure. Inner webs of the quills and tail feathers, dusky-brown. Belly and thighs dull purplish-black. Vent white. Tail rounded. Legs and feet greenish-yellow; the claws long, sharp, and of a pale flesh color. Span of the foot 5 inches.

FLORIDA GALLINULE.

(*Gallinula galeata*, Lichenstein. Bonap. Am. Orn. iv. p. 128. pl. 27. fig. 1. [adult.] Temm. (in note) Man. d'Orn. ii. p. 696. *G. chloropus*, Bonap. Syn. No. 275. *Fulica major pulla, fronte cera coccinea, oblongo quadrata glabra obducta, membrana digitorum angustissima*, Browne. Nat. Hist. Jamaic. p. 479. (Red-Faced Coot.) The Coot, Sloane. ii. p. 320. sp. 15.)

Sp. Charact. — Frontal cere oblong-quadrate; toes extremely long, edged with a very narrow membrane, the middle toe 34 lines; a red circle around the tibia; lateral under tail coverts only, white. — *Adult* dark slate color, tinged with olivaceous on the back. *Young* brownish-olive, beneath whitish.

This species of Gallinule, so closely related to that of Europe, is common in Florida, in the Antilles, in Jamaica, Guadaloupe, and the Isle of Aves, where they have to dispense with the use of fresh water. It is seen frequenting

pools, lagoons and streams, and extends over a great portion of the continent of South America. In the Middle and Northen States of the Union, it appears to be quite accidental, though as a straggler it has been seen, and shot as far north as Albany, in the State of New York. Its range to the north is therefore much more limited than its European analogue. Its voice is uncouth, but sonorous, and its cry, or call, resembles *'ka, 'ka, 'ka!* Mr. Audubon, met with this species, in great numbers, in Florida, towards the source of the St. John's, in the month of March.

This species is unknown in Canada, or the northern parts of America. The Common Gallinule (*G. chloropus*) is spread over all Europe, and the temperate parts of Asia, and is met with throughout the continent of Africa. That of Java (*G. ardosiaca*, VIEILL.) is also very similar with the present, and probably exists throughout India. The principal traits of distinction between the *three* kinds, till recently confounded as one, lie in the comparative length of the toes, and the accompanying difference of form and extent of the frontal clypeus. This bare space on the forehead is much more extensive in the American and Javanese species, than in that of Europe; it is also *round* in that of Java, *quadrate* in that of America, and *narrow* and *acute* in the bird of Europe.

The Florida Gallinule is about 14 inches long. The bill $1\frac{1}{4}$ inches to the rictus, and, as well as the clypeus, or bare space passing up the forehead, red; but with the point greenish. The clypeus is more than an inch wide between the eyes, occupying a great portion of the head, posteriorly terminating somewhat square or slightly heart-shaped. The general color of the plumage is a dark lead color, or sooty black, the head and neck being a shade darker, the lower parts lighter, or almost cinereous. The back and wing coverts are deeply tinged with olive. Primaries blackish, the tail more deeply black than in the other allied species. The under tail coverts

also deep black, with the lateral feathers pure white. The white lining of the wing extends externally round the shoulder, nearly to the tip of the outer quill, which is also white on the exterior web. Flanks with large white spots. Wings about 7 inches long: the tail exceeding 3. Feet greenish, with a red ring round the tibia: the bare space on the thigh nearly $\frac{3}{4}$ of an inch. Tarsus 2 inches and three eighths. Middle toe without the nail, more than $2\frac{1}{2}$ inches; the nail itself $\frac{3}{4}$ of an inch. The lateral toes measure more than 2 inches, and the hind toe one and an eighth. The sexes appear exactly alike.

LOBE-FOOTED BIRDS. (Pinnatipedes, *Lath.*)

With the bill of moderate dimensions, straight and robust, (except in *Phalaropus*, where it is long and slender:) the upper mandible somewhat curved at the point. Feet moderate, the tarsus slender, or compressed; 3 toes forward, and 1 backward; the toes mostly margined with lobed or festooned membranes: hind toe articulated rather high and internally upon the tarsus.

The birds of this artificial order are essentially aquatic, swimming and diving with equal facility. They live in small flocks, on or near the sea coasts, venturing sometimes to sea, others often visit fresh-water lakes. They live upon insects, worms, fish, frogs, and on vegetables. They are monogamous; and migrate in large bands, mostly on wing, but often also execute journeys of considerable extent, by swimming. The plumage of the sexes nearly alike, but the young often differ from the adult. The body is thickly covered with down, and the plumage is close and shining.

COOTS. (Fulica.* *Briss. Lin.*)

In these birds the bill is shorter than the head, stout, nearly straight, conical, compressed, higher than broad at base, acute at tip; mandibles equal, furrowed each side at the base, the upper cov-

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* So called because of its dusky color: from *fuligo*, smoke, and hence the Italian name of *follega* or *follata*.

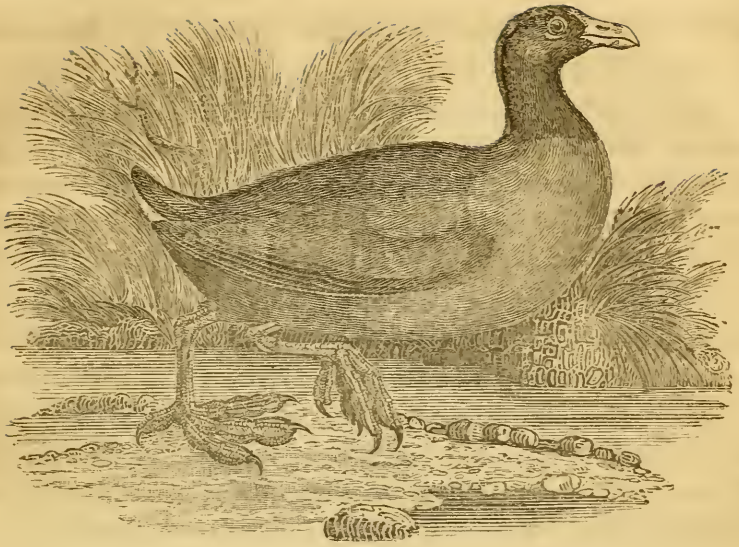
ering the margins of the lower, somewhat curved, the base spreading out into a naked membrane over the forehead, and sometimes accumulating into a crest-like appendage; the lower mandible boat-like (or navicular.) NOSTRILS in the furrow, medial, lateral, concave, oblong, pervious, half closed by a turgid membrane. FEET moderate, situated far back, naked space above the tarsus small; tarsus compressed, almost edged behind; anterior toes very long, nearly divided to the base, on either side margined by a broad scalloped membrane; hind toe bearing on the ground, edged on the inner side with an entire membrane. *Wings* moderate, rounded, 1st primary equal with the 5th, 2d and 3d longest. Tail short and narrow, of 12 or 14 feathers.

The two sexes nearly alike in plumage; and the young scarcely distinguishable from the adult: individuals differ greatly in size. The frontal disk varies much among adult individuals: the moult takes place twice in the year, without producing any material change in the colors of the plumage, which is thick, close and impermeable to water. The general color of all the species is inclining to black.

The Coots are more decidedly aquatic than the Gallinules, they are indeed rarely seen on land; they live, however, in salt as well as fresh waters, and swim and dive with the utmost facility: they frequent gulfs and bays, but never venture out upon the sea; yet they voyage as well as reside upon the water, where the route is sheltered by the proximity of land. The Coots are also nocturnal in their habits, the old birds being rarely seen by day; the young are less shy, playful, and easily approached, but generally elude the gunner, by promptly diving at the flash; they also often collect certain kinds of food beneath the water, so that they are habitual divers, and feed on small fish, insects, molusca, and aquatic plants. They walk with difficulty, from the awkward situation of their legs, being placed far behind the centre of the body; it is indeed seldom that they ever attempt to proceed by land, except, occasionally from one pond to another, and they generally take wing if the distance be of any magnitude; on the ground their progress is so futile, that they are easily overtaken and caught by hand. The Coot takes wing also with difficulty, and during day time, only when driven to emergencies, sometimes even burrowing into the mud, rather than rise from the water; when they make the attempt, they rise on the surface of their favorite element, spread the wings, and then flutter and

paddle rapidly along the surface; when once raised, however, the difficulty vanishes, and they fly with ease and rapidity, but with a great deal of motion in the wings. They breed in marshes, among the reeds and rank grass, forming a very bulky nest of coarse aquatic weeds, the eggs are large and numerous; both sexes join in the labor of incubation, and the rearing of the young, who take to the water as soon as hatched. The flesh is said to be dark, and unpalatable, but the young of the native species are nearly equal in taste with some of the best flavored ducks.

The species, though few, are spread nearly over the world; there is one in Europe, and another closely allied to it in America; another also in Africa, and two or three kinds in South America. They are very nearly allied to the Gallinules.



CINEREOUS COOT.

(*Fulica americana*, Gmel. Bonap. Syn. No. 276. *F. atra*, Wilson, ix. p. 61. pl. 73. fig. 1. Phil. Museum. No. . . .)

Sp. Charact. — Slate colored, under tail coverts and exterior lining of the wings white; tail usually of 14 feathers. — *Adult*, with the head and neck deep black; the membrane of the forehead white. *Young*, with the head and neck brownish-black; beneath paler, and somewhat mixed with white.

The Coot of America, so very similar to that of Europe, according to the season, is found in almost every part of the continent, from the grassy lakes that skirt the Saskatchewan plains, in the 55th parallel,* to the reedy lagoons of East Florida, and the marshes of Jamaica. To the West, the species seems to inhabit the waters of the Columbia, in the remote Territory of Oregon. Mr. Say observed them also in the lower part of Missouri, and in Long's Expedition, they were seen in Lake Winnipique, (lat. 42°.) on the 7th of June. Mr. Swainson has also received speci-

* Richardson and Swainson, North. Zool. ii. p. 404. No. 170.

mens from the distant table-land of Mexico. We may, therefore, conclude almost with certainty, that the Coot of America, indifferent to climate, dwells and breeds in every part of the North American continent, over a range of probably more than 50 degrees of latitude! Nocturnal in their habits, and dispersing themselves far and wide over every watery solitude, they appear, in many places, to have disappeared for the season, until the numbers, swelled by their prolific broods, and impelled at the approach of winter to migrate for food, now begin to show themselves in the lakes, pools, and estuaries in the vicinity of the sea, from which they gradually recede towards the south, as the severity of the season compels them, being unable to subsist amidst the ice. In this way they proceed, accumulating in numbers as they advance, so that in the inundated and marshy tracts of Florida, particularly along the banks of the St. Juan, they are seen in winter, congregated in vast and noisy flocks. In the milder latitudes, their whole migrations will be limited to a traverse from the interior to the vicinity of the sea, while those which visit the wilderness of Upper Canada, where they are abundant in the summer, will probably migrate from 25 to 30 degrees every spring and autumn.

The Coots arrive in Pennsylvania, about the beginning of October. They appear in Fresh Pond, in this vicinity, about the first week in September. A pair took up their residence in this small lake, about the 15th of April; and in June they are occasionally seen accompanied by their young. The nest, eggs, and manners, during the period of reproduction, are yet unknown. Timorous and defenceless, they seek out the remotest solitudes to breed, where, amidst impassable bogs and pools, the few individuals which dwell in the same vicinity are readily overlooked, and with difficulty discovered, from the pertinacity of the older birds

in hiding themselves wholly by day. It is therefore only when the affections and necessities of the species increase, that they are urged to make more visible exertions, and throw aside, for a time, the characteristic indolence of their furtive nature. We now see them abroad, accompanied by their more active and incautious offspring, night and morning, without exhibiting much timidity, the young sporting and feeding with careless confidence in their fickle element. They are at this time easily approached and shot, as they do not appear to dive with the same promptness as the European species.

The old birds, ever watchful and solicitous for their brood, with which they still appear to associate, when alarmed, utter at times a sort of hoarse *'kruk*, which serves as a signal either to dive or swim away. At this season of the year, Mr. N. Wyeth informs me, that he has heard the Coot repeatedly utter a whizzing sound, which he can only compare to the plunge of large shot when fired into water. It might possibly be the small and bouncing leaps, with which the associated young of the Common species amuse themselves at almost all hours of the day. In East Florida, where they appear, according to Bartram, to assemble and breed in great numbers, they are very chattering and noisy, and may be heard calling on each other, almost night and day. With us they are, however, very taciturn, though tame, and with many other birds, appear to have no voice but for the exciting period of the nuptial season.

The Coots of Europe have many enemies in the predacious birds which surround them, particularly the Moor Buzzard, which not only destroys the young, but sucks the eggs, to such an extent, that notwithstanding their great prolificacy, laying from 12 to 18 eggs, the numbers are so thinned by depredation, that not above one tenth escape the talons of rapacious species. Indeed, it is only the

second hatch, of about 8 eggs, more securely concealed among the flags on the margins of pools, that ever survive to renew the species. The nest, secreted in this manner among the rank herbage, is placed on the surface of the water, but raised above it by piling together a quantity of coarse materials, in order to keep the eggs dry. In this buoyant state, a sudden gale of wind has been known to draw them from their slender moorings, and nests have thus been seen floating on the water, with the birds still sitting upon them, as in the act of navigating over the pool on which they had resided. The female is said to sit 22 or 23 days; the young, now covered with a black down, quit the nest as soon as they are hatched, and are then cherished under the wings of the mother, and sleep around her beneath the reeds; she also leads them to the water, in which they swim and dive from the moment of their liberation from the shell.

When closely pursued in the water, the Coot sometimes makes for the shore, and from the compressed form of its body, though so awkward in its gait, can make considerable progress through the grass and reeds. When driven to take wing on the water, it rises low and with reluctance, fluttering along the surface with both the wings and feet pattering over it, for which reason, according to Lawson, in his History of Carolina, they had in that country received the name of *Flusterers*.

The food of the American Coot, like that of the other species, is chiefly vegetable; they live also upon small fluviatile shells and aquatic insects, to all which they add gravel and sand, in the manner of common fowls. A specimen which I examined on the 19th of September, had the stomach, very capacious and muscular, filled with tops of the Water Milfoil *(Myriophyllum verticillatum,)* and a few seeds or nuts of a small species of Bur-Reed *(Spargani-*

um.) From the contents of the intestines, which were enormous, aquatic vegetables appeared now to be their principal food.

In the month of November the Coot leaves the Northern and Middle States, and retires by night, according to its usual habits, to pass the winter in the warmer parts of the Union, and probably extends its journeys along all the shores of the Mexican Gulf.

The length of the American Coot is from 16 to 16½ inches. The length of the bill to the rictus 1 inch 5 lines; of the tarsus 2 inches 1 line; of the middle toe 2 inches 11 lines. The head and neck velvet-black. Fore part of the back, scapulars, rump, and tail coverts, clove-brown, with a greenish tinge. Quills, tail, and vent, pitch-black. Tips of the secondaries, and under tail coverts, white. — *Under plumage* lead-grey. Bill pale horn color, with a chestnut ring near its tip; frontal callus dead white, (in some specimens chestnut-brown,) terminating superiorly in a rhomboidal chestnut colored spot. Legs and toes yellowish-green, the scalloped membrane mostly lead color. — *Male* specimens occur of only 15½ inches.

PHALAROPES. (Phalaropus.† *Briss.)*

In these birds the BILL is rather long, straight, weak and slender, both mandibles furrowed to the point, the upper somewhat curved at the extremity, the lower subulate at the point. NOSTRILS in the furrow, basal, lateral, longitudinal, linear, half covered by a membrane. FEET moderate, 4-toed; naked space on the tibia somewhat extensive; tarsus compressed, the 3 anterior toes bordered by a lobed membrane (as in the Coot,) outer connected at base to the middle toe; hind toe short, bordered only internally with a small entire membrane, articulated interiorly, touching the ground at tip. *Wings* long, curved and acute; the 1st and 2d primaries about equal, and

† From φαλαρις, the probable Greek name for the Coot, and πους, the foot Having the lobed feet of the Coot.

the longest. Tail short, of 12 feathers, with the under coverts extending to its extremity.

The head is small, wholly feathered, and compressed at the sides, but rounded above; the neck is also well proportioned, and the body roundish. The female differs a little from the male, and is larger, and more elegantly feathered. The young differ much from the adult in plumage, and also vary according to age. They moult twice in the year, changing their colors at these periods as much as the Sandpipers. The plumage is close, dense, and very downy at base, quite impermeable to the access of water. The colors in summer brownish and rufous; changing in winter to grey and white.

These elegant and diminutive birds are essentially aquatic, notwithstanding their obvious relation to the Sandpipers. They glide over the water with admirable ease and swiftness, are the smallest of swimming birds; resisting the heaviest waves, like Petrels, they not only inhabit lakes and limited waters, but also go out fearlessly to sea; their extreme buoyancy, deprives them of the ability to dive. They are scarcely ever seen on the ground, where, however, they walk and run quickly. They are by no means shy, or often conscious of danger; live in small flocks on sea coasts, preferring salt and brackish to fresh waters, on which they are but rarely seen. They fly with ease and elegance; and feed upon aquatic insects and molusca, which they collect on the surface of the waves, or by the water side. They associate by pairs; nesting on shore, on the grassy borders of pools and lakes, or in the contiguous savannahs; the eggs are from 4 to 6, on which both sexes incubate, as well as take charge of the young; the brood, however, run about and swim as soon as they are hatched. The flesh is said to be oily and disagreeable, but in young birds of the Hyperborean Phalarope, we have found it altogether similar in flavor with that of the smaller *Tringæ*. They inhabit the Arctic seas, from whence they migrate, at the approach of winter, into the temperate regions of either continent. The genus, as yet, consists of but 4 species, all found in America, and two of them are also common to Europe. The Phalaropes seem to form a link of connexion between the waders and web-footed tribes

Subgenus. — Phalaropus. *Cuv. Bonap.* Crymophilus, *Vieill.*

In this race of birds the bill is moderate in its dimensions, rather stout, and much depressed throughout, the point dilated, rounded and curved. Nostrils oval. *Tongue* short, fleshy and obtuse. *Feet;* tarsi short, stout, and but little compressed; middle toe connected with the outer as far as the second joint, and with the inner to the first articulation; the toes edged with a broad and deeply scalloped membrane; hind toe very short, the nail only attaining the ground. *Wings* moderate. Tail rather long, and much rounded. The general form robust.

This subgenus, or rather genus, consists, at present, of but one well ascertained species; resembling the section *Hemipalma* of the Sandpipers *(Tringæ.)*

RED PHALAROPE.

(Phalaropus fulicarius, Bonap. Syn. No. 277. *P. platyrhinchus,* Temm. Man. d'Orn. ii. p. 712. *P. hyperboreus,* (also *P. fulicarius.)* Wilson, ix. p. 75. pl. 73. fig. 4. Red Phalarope, *(Tringa fulicaria.)* Penn. Arct. Zool. No. 413. The Red Coot-footed Tringa, *(Tringa rufa.)* Edw. pl. 142. Phil. Museum, No. 4088.)

Sp. Charact. — Blackish, varied with rusty, beneath rufous. — *Winter dress* cinereous, beneath white. *Young* ashy-brown, varied with yellowish-rufous; beneath white.

The Flat-Billed, or Red Phalarope, inhabits the whole Arctic circle during summer, where, in the security of solitude, it passes the important period of reproduction. It is observed in the north and east of Europe; in abundance in Siberia, upon the banks of lakes and rivers, and it extends its vernal migrations to the borders of the Caspian. They abound in the hyperboreal regions of America, breeding on the North Georgian Islands, and the remote and wintry coasts of Melville Peninsula. The late enterprising and

scientific northern navigators, on the 10th of June, in the latitude of 68°, saw a company of these little daring voyagers out at sea, four miles from land, swimming at their ease, amidst mountains of ice. They are seen also by mariners between Asia and America. According to Mr. Bullock, the Red Phalarope is found common in the marshes of Sunda and Westra, the most northerly of the Orkney Isles, where they pass the breeding season, and are there so tame, and little alarmed by the destructive arts of man, as to suffer the report of a gun without fear, so that Mr. B. killed as many as nine of them without moving from the spot where he made the first discharge. When seen swimming in pools, it is continually dipping the bill into the water, as if feeding on some minute insects, and while thus engaged it will often allow of a very near approach. When disturbed they fly out a short distance only, like the Dunlins. Sometimes, though rarely, they are seen to approach the shore or the land in quest of food, but their proper element is the water, and more particularly that of the sea or saline pools.

The Flat-Billed Phalarope breeds around Hudson's Bay in the month of June, soon after their arrival from their tropical winter quarters; for this purpose, they select some dry and grassy spot, wherein they lay about 4 eggs of an oil-green color, crowded with irregular spots of dark umber-brown, which become confluent towards the obtuse end. The young take to wing in July, or early in August, and they leave the inclement shores of their nativity in the month of September. At this period, as well as in the spring, a few stragglers visit the United States, where they have been occasionally shot in the vicinity of Philadelphia and Boston. These and other species are also seen, in the autumn, about Vera Cruz, where they are sold with other game, in the market. Their visits in England and Ger-

many are equally rare as in the United States, and they have been known sometimes to stray into Switzerland, having been shot on the lake of Geneva.

The length of the Red Phalarope is from 7 to 7½ inches, (near 9 inches TEMM!) Bill measured from above, 10 lines, tarsus the same length. Summit of the head, occiput and nape, of a pure ash-color: a large patch of greyish-black over the orifice of the ears; two bands of this color originating towards the eyes, pass over the hind-head, where they constitute a single band, which descends along the nape. Sides of the breast, back, scapulars and rump, of a fine bluish-ash (like the mantle of some of the Gulls,) some blackish stains occupy the centre of all these feathers and continue along the shafts: the longest of the scapulars are tipped with white: there is a transverse white band upon the wing. Tail feathers blackish-brown, bordered with cinereous. Front, sides of the neck, middle of the breast, and all the other lower parts pure white. Bill yellowish-red at the base, but brown towards the point. Iris reddish-yellow. Feet greenish-grey. — The *adults of both sexes in winter plumage.* — *Phalaropus lobatus*, LATH. Ind. ii. p. 776. sp. 2.

The young before moulting. Upon the occiput a blackish patch in the form of a horse-shoe; a band of the same color also over the eyes. Nape, back, scapulars, upper tail coverts, and the feathers of the tail ashy-brown. The plumage of the back, scapulars, and middle tail feathers widely bordered with yellowish. Rump white, varied with dark brown. Secondaries and primaries fringed with white, their coverts bordered and terminated with yellowish-white; a transverse white band upon the wing. Front, throat, sides and front of the neck, breast, and other lower parts, pure white. Feet greenish-yellow. Bill ashy-brown. — It is then *Tringa lobata*, LEPECHIN, and *Grey Phalarope* of LATH. Syn. v. p. 272. PENN. Brit. Zool. 126. t. E. i. fig. 3.

Summer and nuptial plumage of the adults. — Head, nape, back, scapulars, and upper tail coverts blackish-brown; all the feathers of these parts surrounded with wide orange-rufous borders. A yellowish band above the eyes. Wing coverts blackish, tipped with white. A transverse white band on the wing. Rump white, spotted with black. Fore part of the neck, breast, belly, and lower tail coverts, bright rufous or brick-red. — *Tringa fulicaria*, BRUNN. Orn. Boreal.

p. 51. No. 172. *Le Phalarope Rouge*, Buff. Ois. viii. p. 225. Red Phalarope, Lath. Syn. v. p. 271.

Obs. Dr. Richardson suspects that plate 308, and 142 of Edwards represents two *Flat-Billed Phalaropes*. A specimen, now in the British Museum, killed in the Orkneys, agrees in size and color with Edwards' bird, plate 142, and is larger in all its dimensions than the ordinary species. Similar large specimens were also killed on Melville Peninsula, by Sir Edward Parry; the *summer plumage* of these does not materially differ, however, from that described above, in the smaller species.

Subgenus. — Lobipes. *(Bonap. Cuv.)*

With the bill moderate, slender, cylindrical, subulate to the tip, point narrow and sharp; upper mandible slightly curved upon the lower at tip. Nostrils not quite basal, linear. *Tongue* filiform and acute. Tarsi elongated, somewhat compressed; toes rather long; middle one connected with the inner to the first, and with the outer to the second joint; the membranous margin of the toes broad and deeply scalloped; hind toe very short, touching the ground only with the nail. Wings long: the tail rather short. The general form slender.

There is but one known species of this section, which bears considerable resemblance to the Tatlers *(Totanus,)* and particularly *Catoptrophorus*, or the Willet.

HYPERBOREAN PHALAROPE.

(Phalaropus hyperboreus, et *fuscus*, Lath. Ind. ii. pp. 774, 775. sp. 1. and 4. Temm. ii. p. 709. Bonap. Syn. No. 278. Am. Orn. iv. p. 82. pl. 25. fig. 2. [young of the second year?] *Lobipes hyperboreus*, Cuv. Reg. Anim. i. p. 533. *Tringa hyperborea*, Lin. Syst. i. p. 249. sp. 9. *T. lobata*, Ibid. [young.] Phil. Museum, No. . . . .)

Sp. Charact. — Black, varied with rufous, beneath white; sides of the neck and breast bright rufous and ash. — *Winter plumage* ci-

nereous; beneath white. *Young* black, varied with pale yellowish-brown; front and beneath white.

The geographical range of the Hyperborean Phalarope, as its name implies, is nearly, if not quite, similar with that of the preceding species. In summer it dwells and breeds generally within the Arctic circle in both continents. It penetrates into Greenland, Iceland, and Spitzbergen, is abundant in the north of Scotland, in the Orkneys and Hebrides, and is equally prevalent in Lapland, on the northern coasts of Siberia, and between Asia and America, a transient visiter on the shores of the Baltic, and seen only accidentally in Germany and Holland. It sometimes, though very rarely, penetrates inland as far as the lakes of Switzerland, and in its natal regions visits lakes of fresh as well as salt water. At the period of their migrations, in May and August, they betake themselves to the open sea, particularly in autumn, and are then gregarious, assembling in flocks: at other times they are seen in pairs, and like the preceding, have a constant habit of dipping the bill into the water, as if in the act of collecting the minute molusca, which may be floating in it. They are often also seen on the wing, and are said by Willughby, to utter a shrill clamorous cry or twitter, resembling that of the Greater Tern.

In Arctic America, where this Phalarope resides in the mild season, it is seen to seek out shady pools, in which it swims with peculiar ease and elegance, its attitudes much resembling those of the Common Teal. It makes its nest without much art, on the borders of the waters it frequents, among the grass, upon some elevated tussock, laying 3 or 4 eggs, of an olive-yellowish color, so closely spotted with blackish-brown as to obscure the appearance of the ground color. They arrive to breed, around Hudson's Bay, about the beginning of June, and old and young are seen to

frequent the sea coast previous to their departure, which takes place often soon after the middle of August, on the 16th or 17th of which they are occasionally killed in different parts of Massachusetts Bay, and near Newport in Rhode Island. They likewise probably pay a transient visit to the coast of New Jersey, as they do also, at times, to Long Island, and finally repair to the mild shores of the Mexican Gulf, being seen in the markets of Mexico and Vera Cruz. Migrating probably by sea and outside of the land, they but rarely visit the coast in any part of the United States. Though straggling families of the old and young are met with in this vicinity, nearly every year, about the beginning of May and the middle of August, commonly in salt water pools near the sea, and, as usual, they are seen perpetually dipping their bills into the water; or with a reclined neck swimming and turning about in their favorite element, with all the ease and grace of a diminutive swan. In Iceland, the Hyperborean Phalarope arrives about the middle of May, and waiting the complete thawing of the ice, they are seen, for a time, assembled in flocks out at sea, several miles from the shore. This gregarious association breaks up early in June, when seceding pairs retire to breed by the mountain ponds. They are very faithful to their mates, and jealous of intrusion from strangers of the same species, on which occasions the males fight with obstinacy, running to and fro upon the water, at the time even when the females are engaged in incubation. When the young are exposed to any danger, the parents are heard to express their alarm, by a repeated *'prip, 'prip.* At the commencement of August, as in the glacial regions of America, the whole retire to the open sea, previous to their migration to the south, and by the end of that month they are no longer to be found in that island.

The food of this species is said to be chiefly worms, winged insects, particularly diptera, and such other kinds as frequent the surface of the water. In specimens, which I have examined, the stomachs contained some small gravel, and the remains of aquatic coleopterous insects, as the different kinds of small water beetles. These individuals, which were young birds beginning to moult, had therefore varied their fare, by a visit to some fresh-water pool, or lake, and, like their kindred Sandpipers, had landed on the shore in quest of gravel. They were likewise fat, and very finely flavored. The old birds, hunted as food by the Greenlanders, are said, however, to be oily and unpalatable, which may arise probably from the nature of the fare on which they there subsist; if the birds alluded to, are not, in fact, the small Petrels, instead of Phalaropes; though their using the skins medicinally, to wipe their rheumy and diseased eyes, seems to decide pretty nearly in favor of the present bird. In the spring of 1832, about the beginning of May, so dense a flock were seen, on the margin of Chelsea Beach, in this vicinity, that 9 or 10 were killed out of it at a single shot: these were nearly all old birds, and on being eaten, proved quite palatable.

Mr. Audubon informs me, that in the month of May last, (1833,) he met with flocks of these Phalaropes, about four miles out at sea, off the Magdalen Islands, where they are known to the fishermen by the name of '*Sea Geese*,' appearing more or less every year. At this time, they were in very dense flocks of about 100 together, so close as nearly, or wholly to touch each other. On being approached they were very shy and wild, and as they rose to fly, in the manner of the Sandpipers, uttered a faint clear cry of '*twee 'tweet*. Like Tringas too, they alight on the shore or the ground, and run with agility. They also, at times, settle on the drift weed and *Fuci*, in order to glean up any insects

which may occur. They squat on the ground like Snipes; breed on the borders of small ponds, and lay only about 2 eggs.

It is remarkable enough, that all these flocks consisted of birds of both sexes assembling to breed, and in imperfect plumage. In none were the sides and front of the neck wholly red. They had a broad patch of red below the ears, not extending in front, and the blackish-grey feathers of the back and scapulars were edged, in the latter, nearly round with pale dull rufous. The females were *paler* in all parts, the scapulars merely edged with whitish-rufous. The *brightest* of these birds answers to Temminck's description of the female of the species. While Bonaparte asserts that the females are always much *brighter*, or *redder* than the males in their most complete plumage. We have, therefore, the following distinct stages of appearance in this species. The *young of the year:* — the *young of the second year*, differing in the appearance of the sexes. The *adults of both sexes* (probably not then wholly alike); and finally, the *grey livery of winter*, distributed *according to the variations in the preceding plumage*. We shall then have, at this rate, 6 or 7 different states of plumage, to this single species of Phalarope!

The Hyperborean Phalarope is about from 7½ to 8 inches long. Length of the bill from the rictus 1 inch; of the tarsus 10½ lines. Alar stretch 12½ inches: naked space upon the tibia ½ an inch. *Summer plumage of the adult*: Sides and front of the neck bright brownish-orange; medial stripe on the latter, the sides of the breast, front, top, and sides of the head, nape, and fore part of the back, blackish-grey. The rest of the *upper plumage* brownish-black, the scapulars, interscapulars, and feathers on the sides of the back, striped exteriorly with yellowish-rufous, the centre of the back having a converging angular space destitute of spots. Tail and wings brownish-black; tertiaries pale ash, below and a stripe on the outer web white. Wing coverts brownish-black, tipped with white; the lower ones very

broadly, so as to produce a conspicuous white band across the wing. Lateral tail feathers dusky-ash, their shafts and edges, several bars on the lateral tail coverts, shafts of the primaries, chin, throat, and the rest of the *under plumage* pure white, blotched with ash beneath the wings. Tail graduated. Bill black. Legs and feet blackish-green; nails very short, rather flat and blunt, the deeply scalloped edging membranes, elegantly pectinated. Iris brown.

The *young before the moult:* with the summit of the head, hind head, nape, and a patch behind the eyes, deep brownish-black. Back, scapulars, and the two middle tail feathers of the same dark color, and broadly bordered with wax-yellow or pale rufous. Front, throat, fore part of the neck, breast, and the other lower parts white, but with pale cinereous shades upon the sides of the breast and flanks. A slight shade of yellowish or brownish upon the sides of the neck. Legs and feet dusky wax-yellow. In the young of this age, the scapulars do not reach the tip of the 4th quill; and the tail extends beyond the upper unbarred coverts more than $\frac{3}{4}$ of an inch, and is also somewhat acute. — *Phalaropus fuscus*, Lath. Ind. ii. p. 776. sp. 4. *Coot-footed Tringa*, Edwards, Glean. pl. 46. *Le Phalarope Brun*, Briss. Orn. vi. p. 18.

Winter plumage; In a young specimen obtained in this vicinity, on the 20th of August, the black feathers of the back and scapulars, are moulting into ash-grey, with white borders.

Subgenus. — Holopodius. *(Bonap.)*

The bill long, very slender, flexible, cylindrical, and of equal breadth throughout, subulate, the point sharp, narrow, and slightly curved. Nostrils basal, long and linear, the grooves nearly obsolete. *Tongue* filiform, acute. *Tarsi* rather long, and somewhat stout, compressed and two edged; toes elongated; the outer connected as far as the first joint to the middle one; the inner almost divided: edging membrane narrow, and *almost wholly entire:* hind toe long, resting on the ground. Wings long: tail rather short. The general form slender.

These birds have a considerable resemblance to the Tatlers *(Totanus;)* but the dense plumage with which they are clad, at once distinguishes them, and indicates their residence in hyperboreal regions.

AMERICAN PHALAROPE.

(*Phalaropus Wilsonii*, Sabine, Zool. Append. Franklin's Exped. p. 691. Bonap. Synops. No. 279. &c. et Am. Orn. iv. p. 59. pl. 24. fig. 1. [adult.] and pl. 25. fig. 1. [young.] Richard, North. Zool. ii. p. 405. pl. 69. *P. frenatus*, Vieill. Gal. Ois. ii. p. 178. pl. 271. *P. fimbriatus*, Temm. Pl. Color. 370. [bad.] *Lobipes incanus*, Selby and Jard. Orn. Illust. i. Syn. sp. 3. t. 16. [young.] *Phalaropus lobatus*, Ord. in Wilson, ix. p. 72. pl. 73. fig. 2. [bad.] Phil. Museum, No. . . . [adult.])

Sp. Charact. — Bluish-grey, beneath white; an elongated chestnut patch confluent on the back, and a black curving band on each side of the neck. — *Winter plumage* unknown. *Young* dusky-brown, centres of the feathers darker; beneath white; sides of the neck tinged with rufous, but accompanied with no black line.

This elegant Phalarope, first noticed by Wilson, in a museum at Albany, was afterwards dedicated to his name and memory, when now no longer conscious of the honor. Hurried to the tomb from amidst his unfinished and ill requited labors, his favorite Orpheus and Wood Thrush, pour out their melody in vain. The Blue Bird, which hastens to inform us of the return of spring, and of the approach of flowers, delights no longer the favorite of their song. Like his own beautiful and strange bird, now before us, his transient visit, which delighted us, has ended; but his migration, no longer to be postponed, has exceeded the bounds of the earth! and spring and autumn, with their wandering hosts of flitting birds, may still return; while he, translated to the Elysian groves, will only be remembered in the thrill of the plaintive nightingale! * * * * * *

Wilson's Phalarope, unlike the preceding, has no predilection for the ultimate range of the Arctic circle, confining its residence consequently to the shores of America, it is unknown in summer beyond the 55th parallel, passing

the period of reproduction on the plains of the Saskatchewan, being also a stranger to the coasts of Hudson's Bay. Taking the interior of the continent for its abode, it is seen not uncommon on the borders of lakes, in the vicinity of the city of Mexico. In these situations, choosing the shelter of some grassy tuft, it forms an artless nest, in which it deposits 2 or 3 pyriform eggs, between yellowish-grey and cream color, interspersed with small roundish spots, and a few larger blotches of umber-brown, somewhat crowded towards the obtuse end. From the structure of its legs and feet, this remarkable species, so distinct from the others, appears more suited for a wading or walking, than an eminent swimming bird. In the United States, it can only be considered as a straggler, of which a specimen has been obtained near Philadelphia, in May, and another in the State of New York. As yet, we have never met with it in this vicinity.

Wilson's Phalarope appears to vary in size from 9½ to 10½ inches. The bill black, and very straight, 1 inch and 4 lines long. The tarsus compressed as in the Sea Ducks, 1 inch 5 lines. Naked part of the thigh 7½ lines. The middle toe 1 inch. *Summer plumage of the adult female:* Crown of the head and lores pearl grey: medial stripe on the neck greyish-white. Dorsal plumage, wings, and tail broccoli-brown; shafts of the primaries umber-brown, the first one nearly white. Lesser quills and their coverts slightly edged with white. Sides of the neck rich chestnut-brown, which is continued in a stripe over the shoulders, down the outside of the interscapulars: there is a similar stripe on the outer border of the scapulars, and a tinge of the same color over the throat. A spot before the eye, the sides of the rump, tips of the lateral tail feathers, also stripes on their shafts, and mottling on their inner webs, with the borders of the upper tail coverts, the chin, and *under plumage* pure white. A velvet black band commences on the lores, includes the eye, and runs half way down the neck, becoming broader after passing the ears. Legs brownish-black. Tail with a double, but very shallow emargination.

Subgenus. — *Amblyrhynchus.

With the bill slender and depressed, dilated and rounded at the extremity. The feet more than half palmated, and the toes bordered with a plain or unscolloped membrane.

PLAIN PHALAROPE.

(*Phalaropus glacialis*, Lath. Plain Phalarope, Penn. Arct. Zool. No. 415. Richard. North. Zool. ii. p. 409. *Tringa glacialis*, Gmel. Syst. i. p. 675. sp. 32. *Phalarope a cou jaune*, Sonnini, èdit. de Buffon, Ois. xxiii. p. 298.)

This very singular bird, described by Pennant, was taken to the north of Behring's Straits, near Icy Cape, in latitude 69½ N. and longitude 191½ E. in the beginning of August, or end of July, on Captain Cook's last voyage. Recent authors have very unjustly referred it to *P. hyperborcus*, gratuitously supposing it to be an example in the moult. Dr. Richardson remarks, "I have ground for believing that a very handsome Phalarope, answering, in some particulars, to the *Plain Phalarope*, and unknown to the naturalists of the present day, exists in America. In September, 1819, while at York Factory, Hudson's Bay, a small bird was brought to me, which had a depressed bill, rounded at the end; with the feet more than half palmated, and the toes evenly bordered to the nails. Its plumage, as far as my recollection goes, was mostly white. The natives said that it was the only bird of the kind, they had ever seen." This specimen, with others sent to London, were subsequently lost, and the species thus thrown back into its original obscurity. But, as the Doctor remarks, from the rarity of this bird at Hudson's Bay, it most probably frequents the northern side of the Rocky Mountains, and, it is to be hoped that it may one day be found in New Caledonia. This specimen was probably the winter plumage of the species; while Pennant's may be the summer livery. It is thus briefly described by him.

"Ph. With a slender black bill, dilated at the end: crown dusky and dull yellow: across each eye a black line: cheeks and fore part of the neck a pale clay color, "(yellowish:)" breast and belly white: back and tertials dusky, edged with dull yellow: wing cov-

erts, primaries, and tail, cinereous; the last edged like the tertials: legs yellowish: toes bordered with a plain or unscalloped membrane." *Arct. Zool.* ii. No. 415.

GREBES. (Podiceps. *Lath.)*

In these birds the BILL is of moderate dimensions, robust, hard, straight and compressed, conically elongated and acute; upper mandible deeply and broadly furrowed each side at base, somewhat curved at tip; the lower navicular (or boat-shaped.) NOSTRILS in the furrows, basal, lateral, concave, oblong, pervious, posteriorly half closed by a membrane. *Feet* turned outward, situated far back; the tibia almost hidden in the belly; tarsus much compressed; anterior toes greatly depressed, connected at base by a membrane forming a broad lobe round each toe, lobe of the middle toe thrice as broad as that of the lateral; hind toe compressed, articulated internally upon the tarsus, equal in length to a joint of the fore toe: *nails* wide and flattened. *Wings* short and narrow, the 3 first primaries nearly equal, and longest. Tail none; in its place a small tuft of downy feathers.

The female is similar to the male in plumage; but the young are very different from the adult, not acquiring their full dress before the second year: the adult is generally distinguished by the presence of a crest and ruff. They moult in spring and autumn, changing then their colors, and periodically losing their ornaments. The plumage is very thick, compact and silky, and beneath glossy. Colors blackish above, and silvery white below.

The Grebes are eminently aquatic, swimming as well beneath the water as on its surface, and in this submerged progress, besides paddling, they seem to use their wings as if proceeding in the air; they dive for a great length of time, and descend so far as to be sometimes caught by accident in the deep sea nets. Indeed they travel, dwell, sleep and migrate on the water; their facility at diving and moving in this element, is so great as to have bestowed upon them the emphatic appellation of ' Water Witches.' During summer and the breeding season, penetrating far to the north, even into the Arctic circle, they pass the time chiefly in fresh waters, particularly lakes, estuaries, and sluggish streams, but as the inclemency of the season advances, they leave their inland retreats, and seek out the

open waters in the precincts of the sea, and finally venture out to the margin of the ocean in quest of food and shelter, proceeding leisurely towards milder climates, and spending the winter often in small companies in bays and inlets, free from the influence of severe frost; in such situations they are averse to landing on the shores, from their inability to travel far by land, in consequence of the inconvenient and posterior situation of their feet, they therefore only waddle and flounder along slowly over the surface, being unable to rise on wing often from the level ground, though flying with ease and facility for a short distance when once sufficiently elevated. In storms, and near steep and surf-lashed shores, they frequently perish on grounding, as they are unable often to regain the water beyond the influence of the breakers, and left wrecked on the strand, they commonly perish of hunger. In fact they never come to land but for the purpose of breeding, and then select swampy and submerged marshes, fixing their nests, which often float, to reeds and rank herbage. This rude cradle is made of dry grass, and lined with the down plucked from their own bodies, and of which, indeed, as well as feathers, a portion is commonly found within their stomachs; an appetite, though depraved, which originates from the instinct employed in lining the nest for the reception of the callow brood. The eggs 3 to 6, are covered also with this down, whenever they are left, and the parent shows a strong attachment to her charge. The young are covered at first with a beautifully spotted down, are soon able to provide for themselves, and are at first carefully led into the water by the example of the attentive parents. The mother even swims sometimes with the young on her back, and snatches them from danger, by diving with them under her wings. They feed on fish, frogs, reptiles, aquatic coleoptera, and occasionally on water plants.

The species are spread over the whole world, but they have a predilection for the high boreal climates, to which most of them retire in summer to breed.

Subgenus. — Podiceps.

In the Grebes, common to both continents, the *bill* is slender from the base, partly cylindric, and with the point straight and subulate: the *nostrils* are also elongated. The tarsus thinly compressed; and the inner and middle toe united by a membrane, only as far as the first articulation.

CRESTED GREBE, OR GAUNT.

(*Podiceps cristatus*, LATH. BONAP. Synops. No. 364. RICHARD. North. Zool. ii. p. 410. *Le Grêbe Cornu*, BUFF. Ois. viii. p. 235. t. 19. Pl. Enlum. 400. [adult.] Crested Grebe, PENN. Arct Zool. ii. p. 208. EDWARDS, Glean. t. 360. fig. 2. *Colymbus urinator*, GMEL. sp. 9. Tippet Grebe, LATH. Syn. v. p. 283. [the young of the year.] MEYER, Vög. Deut. i. Heft. 4. t. 3. [the young of two years of age.])

SP. CHARACT. — Bill longer than the head, from the front to the extremity, about 2 inches, reddish, white at the point; neck beneath, front, and secondaries white. — *Adult* with the neck and

breast white; sides of the head reddish, a flat occipital tuft and a broad ruff on each side of the neck, black. *Young*, dull colored, obscurely spotted, and destitute of the ornamental feathers.

The Crested Grebe, inhabiting the northern parts of both the old and new continents, is met with in Iceland, northern Europe, and the cold, as well as temperate parts of Siberia; in winter passing south as far as Italy, and along the coasts of the Mediterranean. In America, they are found in all the secluded reedy lakes of the mountainous and woody districts, in the remote fur countries around Hudson's Bay. This species is also common in some parts of England, where it is known by the provincial name of Cargoose, or Gaunt. They breed in the meres of Shropshire and Cheshire, and in the eastern fen of Lincolnshire. They also pass the period of reproduction in some of the Scottish Isles, particularly in Zetland, and are abundant in Germany, Holland, and France. In the United States they are only seen in winter, proceeding leisurely towards the south, as the severity of the season increases, often migrating by water, rather than on the wing, and keeping generally at no great distance from the sea, or tide-water estuaries, thus securing their retreat from the surprise of sudden and severe frost.

The nest of the Crested Grebe, concealed among the reeds and flags of the ponds, in which they dwell in the summer, is made of rushes, and the coarse aquatic herbage contiguous to the chosen spot, and so constructed as often to float about on the rise of the surrounding water which penetrates it, notwithstanding which, the female still sits steadfastly on the floating habitation, defended securely from the access of the water, by the density of her oily and downy plumage. The eggs, 3 or 4, are of a whitish-green, waved, or, as it were, soiled with deep brown. The young are fed sometimes with small eels, and fry; and according

to Pennant, when endangered or fatigued, the female will carry her brood upon her back, or under her wing. Their food consists of fish, fry, coleoptera, marine worms, and often, in part, of vegetables. In Canada, from their remarkable agility in diving, they are known by the name of Water Witches, and are here called Dippers, as they plunge beneath the water on the least appearance of danger, depending very little on their wings for safety; and when most disturbed seldom fly farther than from one side of the pool to the other. The young are said to be common in the winter season, in small flocks, on the lake of Geneva, in Switzerland, and are killed for the sake of their beautiful skins; the under side being dressed, with the feathers on, are made into muffs and tippets.

The length of this species is from 23 inches to 2 feet. Length of the bill from above, 2 inches. From the nostrils to the tip of the bill 1 inch 5 lines. Upper surface of the head, occipital crest, and lateral ruff, of a shining black. Bases of the latter, and sides of the nape, tinged with rufous. Back of the neck, dorsal plumage, and wings, blackish-brown. Upper border of the wing, tertiaries, and all the secondaries, except 3 or 4 posterior ones, a spot before the eye, the chin, sides of the head, and *under plumage* of the neck and body, white, silvery below. Naked space from the bill to the eye, red. Bill of a brownish red, above dusky, white at the point. Iris carmine. Feet blackish, interiorly yellowish-white. — *Adults after the completion of the third moult.* The *female* is a little smaller, the crest and ruff somewhat shorter, and the colors a little duller.

At the age of two years, and after the completion of the moult, both sexes have a very short occipital crest and ruff, the former bordered with white feathers: there is also no rufous on the face, which is white. A blackish irregular band from the bill passing under the eyes, and terminating on the nape. — *The* YOUNG, *up to the age of two years* have no appearance of the crest or ruff: the front and the face are also white: upon these parts, as well as upon the upper part of the neck, are scattered irregular zig-zag bands of a dusky-brown. The Iris is then pale yellow, and the bill reddish-livid. *The young of the year before moulting* have the head and upper part of

the neck of a deep dusky-brown. — *Le Grêbe huppé, et le Grêbe*, Buff. Ois. viii. pp. 233, et 227. Pl. Enlum. 944, and 941. [the young of different ages.] Tippet Grebe, Lath. Syn. v. p. 283. [the young of one year old.]

RED-NECKED GREBE.

(*Podiceps rubricollis*, Lath. Temm. ii. p. 720. Bonap. Synops. No. 365. Richard. North. Zool. ii. p. 411. *Colymbus rubricollis*, et *subcristatus*, Gmel. Syst. sp. 24. et sp. 18. *Le Grêbe a joues grises*, ou *Le Jou-Gris*, Buff. Ois. viii. p. 241. Pl. Enlum. 931. Red-Necked Grebe, Lath. Suppl. i. p. 261. t. 118.)

Sp. Charact. — Bill as long as the head, black, yellow at the base, from the front to the tip 1½ inches; neck beneath reddish; front black; secondaries white. — *Adult*, with the cheeks and throat ash color: neck and beneath rufous; crown and nape with a narrowish black space; a short occipital black crest, but no ruff. *Young* much duller colored and spotted; no occipital crest; cheeks and throat white; the former striped with black.

The Red-Necked Grebe, like most of the other species, retires to the hyperboreal regions of both continents to pass the breeding season, delighting in the seclusion of the desolate wilderness, penetrating in the present continent, as far as the remote inland shores of Great Slave Lake, where they were observed by Captain Franklin's adventurous party, in the month of May. In the course of the winter, they proceed to the south, probably as far as Florida, but are rarely seen in the United States. At this season they frequent lakes, and the estuaries or rivers in the vicinity of the sea; but at other times are seen more abundantly on fresh waters. They are common in the eastern parts of Europe, and frequently visit Great Britain, Germany, and Switzerland. Their food, as usual, is small fish, fry, reptiles, coleopterous insects and vegetables. The nest is similar to that of the

preceding species; the eggs 3 or 4, of a whitish-green, and appearing as if soiled with yellowish or brown.

The length of the Red-Necked Grebe is from 17 to 18 inches. Bill from the front 1½ inches; from the rictus 2½. Front, summit of the head, and short crest, of a shining black. Cheeks and throat mouse grey; a wide black band along the nape. Fore part of the neck, sides and summit of the breast bright rufous; all the other lower parts white, with the exception of the flanks and thighs, which are spotted with blackish-brown. Secondaries white. Base of the bill yellow, the rest black. Iris reddish-brown. Feet extremely black, interiorly yellowish-green.

Young birds of two years of age have the throat and cheeks white; upper part of the neck yellowish-white, upon these parts are scattered zig-zag brown and blackish bands. The top of the head and nape black, but without crest. Lower part of the neck and summit of the breast, of a dull rufous, varied with brown; some of the feathers of the breast and the vent edged with grey. Base of the bill livid yellow. Iris reddish-yellow. It is then *Colymbus parotis*, Sparman, Mus. Carls. fasc. i. t. 9. Gmel. sp. 21.

HORNED GREBE, or DOBCHICK.

(*Podiceps cornutus*, Lath. sp. 5. Richard. North. Zool. ii. p. 411. Bonap. Synops. No. 366. Temm. Man. d'Orn. ii. p. 721. *Colymbus cornutus*, Gmel. sp. 19. *Le Petit Grêbe Cornu*, Buff. *et Le Grêbe d'Esclavonie*, Pl. Enlum. 404. Eared or Horned Dobchick, Edwards, pl. 145. [Hudson's Bay specimen.] Black and White Dobchick, Ib. pl. 96. (anterior figure.) [young English specimen.] Horned Grebe, Penn. Arct. Zool. No. 417. Dusky Grebe, Ib. No. 420. [young.] Phil. Museum, No. . . .)

Sp. Charact. — Bill shorter than the head, compressed throughout; secondaries white; 12 outer primaries entirely brown. — *Adult* dusky, beneath white; neck and breast rufous; a broad black ruff round the neck; a long tuft of rufous feathers behind and above each eye. *Young* pure white beneath, except the neck, the white nearly meeting on the nape: no ornamental feathers.

The Horned Grebe, or Dobchick, is also an inhabitant of the northern regions of both continents, being very common, in the summer season, throughout the Hudson's Bay fur countries, frequenting almost every lake with grassy borders, in which seclusion, about the month of June, it constructs its nest of coarse herbage, which left afloat, is sometimes moored to the surrounding reeds and rushes. The eggs, 3 or 4, are white, spotted, and as it were, soiled with brown; in order to hide them from its enemies, it has the habit of covering the eggs, while abroad. In the autumn it retires to the south, appearing in Massachusetts, sometimes in the small fresh water lakes near the ocean. At a later period they retire still further, being very common in the Middle and Southern States, where they are known, with other species, by the name of Dippers and Water Witches. The Indians of Hudson's Bay give it the name of *Seekeep*. While here, they keep generally in the salt water, swimming and diving with great agility and elegance, and these are almost universally young birds, the old ones keeping probably more inland in their migrations towards the south. In most of the individuals which have fallen under my notice, the stomach, like a pouch in form, has been generally swelled out with its own feathers, apparently bent and masticated before swallowing; these had been feeding on minute eels, and coleopterous insects, and had, besides the matted feathers plucked from the breast, a quantity of sand and gravel. Their appetites are, indeed, keen and little scrupulous, for which, sometimes, they pay a dear forfeit, as happened to an individual seen by Mr. N. Wyeth, which had its bill clasped in the shell of a clam, in such a manner as to disable it both from flying and diving.

The Horned Grebe of America is from 15½ to 16 inches in length. (that of Europe is about 13½ inches.) Head, nape, and throat, green-

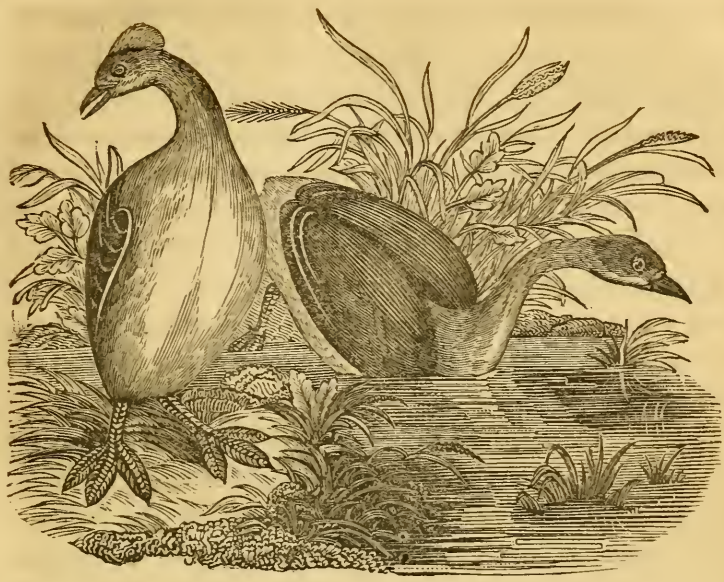
ish-black. A broad buff-orange eye band, which is reddish before the eye and on the side of the nape. Back of the neck, dorsal plumage, and wings, blackish-brown: the secondaries white. Under surface and sides of the neck, sides of the breast, the flanks and thighs, reddish-orange; vent greyish: the rest of the under plumage shining yellowish-white. Orbits and rictus, lake-red. Bill bluish-black, the tip white. Irids red. Legs brownish, paler interiorly. Plumage of the sides of the head and nape lengthened so as to form a lateral ruff. The colored eye-band forms the upper margin of the ruff. Nail of the middle toe finely pectinated. — The *young* are without the horned eye-band and reddish-orange plumage, having the throat and sides of the head below the eye, and a spot on the lores white; fore part of the neck ash-colored. In the European bird, the eye appears to have, as it were, a double iris, the outer being yellow, and the inner circle bright red. In the young, the outer circle is white, the inner pale red. In our bird the iris is *simply* of a bright salmon-red. — *Podiceps obscurus*, et *caspicus*, Lath. sp. 4. [the young.] *Colymbus nigricans*, Scop. Ann. i. No. 101. Eared Grebe, Lath. var. *A*. [a bird of the age of two years.]

EARED DOBCHICK, or GREBE.

(*Podiceps auritus*, Lath. sp 3. *Colymbus auritus*, Gmel. sp. 8. Eared Dobchick, Edwards, Glean. t. 96. fig. 2. [a correct figure.] Meyer, Tasschenb. Deut. ii. p. 435. Naum. Vög. t. 70. fig. 108. *Colymbo suasso turco*, Stor. degl. Ucc. v. t. 520. [adult.])

Sp. Charact. — Bill shorter than the head, about 8 lines long from the front, depressed at base, somewhat recurved at the point, black: secondaries white; inner primaries white on the inner vanes. — *Adult* blackish, beneath white; neck, breast, crest, and very short ruff, black; a long slender tuft of reddish feathers behind and beneath each eye, covering the ears. *Young* pure white beneath, on the cheeks and sides of the neck, this color extending but little on the hind head: no ornamental feathers.

As this species is very common to the north of the old continent, it will probably be found in America. It is abundant upon the rivers and fresh-water lakes, near the sea coasts in Europe, particularly in Germany, France and Switzerland.



LITTLE GREBE, OR DABCHICK.

(*Podiceps minor*, LATH. sp. 9. TEMM. Man. d'Orn. ii. p. 727. *P. hebridicus*, LATH. sp. 11. *Colymbus minor*, GMEL. ii. p. 594. *Le Grêbe de rivière*, ou *Castagneux*, BUFF. Ois. viii. p. 244. t. 20. Pl. Enlum. 905. [young of the year.] *Grêbe Montagnard*, SONNINI, Nouv. Ed. de BUFF. Ois. xxiii. p. 336.)

SP. CHARACT. — Bill very short, strong and compressed; the adult without crest or ruff; the tarsus very rough behind: secondaries white at the base and on their inner webs.

THE Dabchick, the smallest of the species, in length only about 10 inches, is again a race of birds common to the colder parts of both continents, having been seen around Hudson's Bay, though hitherto unknown even as a visiter within the limits of the United States. This is the least and most plentiful species, being common in Europe and the north of Asia in most lakes, slow running rivers, streams and ponds, which are well supplied with the shelter of reeds. It seldom takes to wing, but dives on the least

alarm, and will remain under water amongst the floating weeds and sheltering herbage, with its bill alone elevated above for respiration. Its nest, like that of other Grebes, is formed of a large quantity of coarse aquatic plants, piled together to the thickness of a foot, and is generally fastened to the reeds or flags, in order to prevent its removal by the current. The eggs, 5 or 6 in number, are of a dirty white, and somewhat less than those of a pigeon. These are generally covered with weeds for concealment in the absence of the birds; yet with every precaution they are frequently destroyed by the water rat.

In large rivers these little divers are often devoured by pike and trout, while they are themselves engaged in the pursuit of small fish. In the spring the males are very active in pursuit of their intended mates, and at such times frequently fly along the surface of the water to a small distance, uttering often a shrill chattering noise. After the breeding season, they frequent the inlets of the sea, and feed on shrimps and other marine productions. This species is not uncommon in most parts of the old continent, but is by no means frequent in the north.

The length of the Dabchick is only about 10 inches. *Adults of both sexes, at the age of* 3 *years:* With the throat, summit of the head, and nape, deep black. Sides and fore part of the neck bright chestnut. Breast and flanks blackish; the remainder of the *under plumage* blackish-ash, varied with some white shades; thighs and rump tinged with rufous. *Upper parts* blackish, with olivaceous reflections. Quills ashy-brown; secondaries white interiorly and at base. Bill black, base of the lower mandible, naked space to the eye, and extreme point of the bill, whitish. Iris reddish-brown. Feet externally greenish-brown, interiorly flesh color.

The young, after completing the moult, at the close of the first year, have the summit of the head, nape, and upper part of the sides of the neck, white, varied with irregular light and dark bands and spots of rufous-brown. Behind the eye are some small oblique streaks of white. *Lower part* of the anterior portion of the neck,

breast and flanks, pale rufous, varied with blackish shades upon the thighs. Middle of the belly white.

The young of the year have the top of the head, nape, and upper parts ashy-brown, slightly tinted with rufous. The throat white. Sides of the neck pale ashy-rufous. Fore part of the neck, top of the breast and flanks more or less deeply whitish-rufous. Vent pure white. Lower mandible and the borders of the upper one, yellowish-ash color, the remainder of the bill brown. Iris dark brown.

Subgenus. — *Hydroka.

Bill very stout, compressed and curved strongly at the point. Nostrils somewhat rounded. Tarsus robust, shorter than the inner toe. Inner and middle toe united by a membrane beyond the first articulation, the outer and middle one equal in length. Wings very short. — Peculiar to America.

PIED-BILL DOBCHICK.

(*Podiceps carolinensis*, Lath. Bonap. Syn. No. 367. Richard. North. Zool. ii. p. 412. *Colymbus podiceps*, and *C. ludovicianus*, Gmel. Pied-Bill Dobchick, Catesb. Car. i. pl. 91. [adult]. Buff. Pl. Enlum. 943. [young.] Pied-Bill Grebe, Penn. Arct. Zool. No. 418. Phil. Museum, No. . . .)

Sp. Charact.—Bill much shorter than the head, about 9 lines long from the front, greatly compressed and bent at the point; neck beneath much colored; all the quills dusky.—*Adult* with the feathers of the hind neck somewhat elongated; chin and throat black; bill with a black band. *Young* dull ferruginous on the sides and throat; chin white; bill without a band.

The Pied-Bill Dobchick is an exclusive inhabitant of the North American continent, proceeding north to breed as far as the remote fur countries of upper Canada; a spe-

cimen having been killed on Great Slave Lake by the exploring party of Captain Franklin. They arrive in the Northern and Middle States about the close of August, and are then seen residing in our small fresh-water lakes, until the approach of winter, when they retire probably as far south as the lagoons of the Mississippi, and the tide-water streams and bays of the Mexican Gulf. It is the most common species in the Union, and is met with in all the states as far as Florida, leaving those countries however for the north in the month of April. Most of the birds seen in this vicinity are young or unadult; they feed principally on fish and aquatic insects, such as large *Nepas*, and other kinds. They often swim about without appearing to take any alarm from the peaceful spectator; but in the next moment dive and swim under water for such a length of time, as to appear, for several minutes, entirely invisible; and at such times, these Water Witches, as they are deservedly called, are often moving about entirely submerged to the bill, which is the only part elevated above the water, and, in the covert of the surrounding aquatic herbage, this small projecting point is not only easily overlooked but with difficulty discovered. Like Ducks, they are also somewhat nocturnal in their habits, and may be perceived after sun-set, in the dusky twilight, actively engaged, and swimming about the ponds with great activity. While here they are not heard to utter any note, and their breeding places are wholly unknown. The young are often eaten, and are generally tender and well flavored.

This species is about 14 inches in length. *Upper plumage* dusky-brown: the secondaries obliquely tipped with white. A conspicuous black roundish patch under the chin, extending an inch or more down on the throat; the rest of the throat and cheeks brownish-grey; a patch on the breast dotted or clouded with brownish-white and black. The belly, almost white, mottled under the wings and along

the flanks nearly as on the breast. Rump darker, its sides above dusky, but the downy base of the feathers pale yellowish-rufous. Bill with a broad black band round its middle including the nostrils, its length, measured from above, about $\frac{3}{4}$ of an inch. Irids hazel. Legs black, with a slight tinge of brown.

In the *young* bird, there is often already a vestige of the black transverse band, but the chin is nearly white. The sides, front of the neck, and top of the breast, as well as the flanks, are of a light chestnut-brown; lower part of the breast more faintly tinged with the same color; the belly silvery-white tinged with a shade of brown; the vent grey.—*Le Grêbe de la Louisiane*, Buff. Ois. viii. p. 240. Pl. Enlum. 943. Louisiana Grebe, Penn. Arct. Zool. ii. p. 207. No. 419.

WEB-FOOTED BIRDS (Palmipedes, *Temm.*)

In this order of birds the bill is of forms too various to admit of any general definition. The feet are short, placed more or less back, and drawn up considerably towards the abdomen: anterior toes partially or wholly webbed, the membrane sometimes deeply sinuated, so as to leave nearly half the length of the toes unconnected: the hind toe articulated interiorly upon the tarsus or wholly absent.

The female is generally smaller, but in other respects very similar in plumage with the male, except among the Ducks and Mergansers; the young differ greatly from the adult. They moult usually twice in the year; and the plumage is peculiarly thick, close, abundantly provided with down, and naturally, without any peculiar provision, so oily as to be impermeable to the water in which this tribe so generally dwell. The body appears almost boat-shaped, or in a form which offers the least resistance to their motion in the water. The tail consists of from 12 to 20 feathers.

Many of the birds of this order may be almost designated as inhabitants of the sea, they seldom leave it to any great distance, and dwell generally near the coast; it is rare to meet with them upon fresh waters in the interior of the land, and then chiefly by accident, or when performing their periodical passage. The greater number of the species which compose the first genera of this order, repose upon the surface of the sea, are indefatigable in flight, habitual swimmers, but so light and full of feathers as to be almost wholly incapable of diving: others again both swim and submerge; there are a few which live continually at sea, and but for the necessity of aërial respiration, could almost entirely subsist

in the liquid element; these are never seen on land but during the short period of reproduction; many indeed leave their eggs for the greater part of the time to the hatching influence of the sun. Some, as many of the ANATIDÆ, dwell mostly on fresh waters, and retire into the interior to breed; approaching the sea only in the period of their migrations. All the birds of the order nest on the ground, in holes, crevices or shelvings of rocks, or merely upon the elevated borders of the strand; a few, however, habitually or accidentally nest in trees or in hollow stumps. As the young are early capable of providing shelter for themselves, many have no proper nest, and in all it is rude and artless. Their food, as their habits indicate, is chiefly aquatic; such as fish, fry, shelly mollusca, and marine insects, to which some species also add vegetables.

SKIMMERS. (RHINCOPS. *Lin.*)

IN the singular birds of this genus the BILL is longer than the head, straight, much compressed, but somewhat four-sided at the base; upper mandible much shorter than the lower, somewhat curved, rather acute, grooved so as to receive the edge of the lower: lower mandible narrower, truncated or cut off at the point, fitting into the channel of the upper like the blade of a knife. NOSTRILS basal, marginal, concave, longitudinal, open and pervious. *Tongue* very short, narrow and acute. FEET, moderate, slender; tarsus somewhat longer than the middle toe; middle toe longest; inner shorter than the outer: webs emarginate: the lateral toe bordered exteriorly with a narrow membrane: hind toe short, articulated rather high on the tarsus, touching the ground at tip. *Wings* extremely long, curving upwards; 1st primary longest, and with the 2d much longer than the rest. Tail forked, of 12 feathers.

The sexes alike in plumage; but the young differing from the adult. The moult takes place twice in the year, without inducing much change in the appearance of the plumage.

The Skimmers keep in small parties near the shores, and seldom venture far to sea. They seek repose on the strand, and in the neighbouring marshes ; walk badly, keep much on wing, seldom alighting, particularly on the water, and they never swim, notwithstanding the presence of their webbed feet. They fly slowly, flapping their wings while in quest of prey, but proceed swift and tortuous in their course when it is once discovered. Their voice is loud, harsh, and screaming. They feed on small fish, and other light productions of the ocean, skimming along the surface of the water, in which they dip the lower mandible, the upper being elevated out of the water until the prey is felt by the lower. They breed in society, on rocks, or on sandy and elevated shores, without forming any artificial nest; and lay three oval eggs; raising but a single brood.—The Skimmers are chiefly inhabitants of tropical climates ; and are found in all longitudes. The genus consists, however, of but three species, there being, besides the present, one in India, and another in tropical America.

BLACK SKIMMER.

(*Rhincops nigra*, Lin. Bonap. Synops. No. 283. Cut Water, Catesby, i. p. 90. Arct. Zool. No. 445. Wilson, vii. p. 85. pl. 60. fig. 4. *Le Bec en Ciseaux*, Buff. viii. p. 454. tab. 36. Pl. Enlum. 357. Phil. Museum. No. 3530.)

Sp. Charact.—Black, beneath white; bill and feet red, the former black at the point.

The Cut-Water or Black Skimmer, is a bird of passage in the United States, appearing in New Jersey from its tropical winter quarters early in May. Here it resides and breeds in its favorite haunts, along the low sand-bars, and dry flats of the strand, in the immediate vicinity of the ocean. Their nests have been found along the shores of Cape May, about the beginning of June, and consist of a mere hollow scratched out in the sand, without the addition of any extraneous materials. The eggs are usually 3 in number, oval, about $1\frac{3}{4}$ to 2 inches by $1\frac{1}{4}$, and nearly

pure white, marked almost all over with large umber-brown blotches and dashes of two shades, and other faint ones appearing beneath the surface. In some eggs these particular blotches are from half an inch to an inch in length. As the birds, like the Terns and Gulls to which they are allied, remain gregarious through the breeding season, it is possible to collect a half bushel or more of the eggs from a single sand bar, within the compass of half an acre ; and though not very palatable, they are still eaten by the inhabitants of the coast. The female only sits on her nest during the night, or in wet and stormy weather ; but the young remain for several weeks before they acquire the full use of their wings, and are during that period assiduously fed by both parents ; at first they are scarcely distinguishable from the sand by the similarity of their color, and during this period may often be seen basking in the sun, and spreading out their wings upon the warm beach. The pair, retiring to the south, in September, or as soon as their young are prepared for their voyage, raise but a single brood in the season.

The Skimmer is, I believe, unknown to the north of the sea-coast of New Jersey, and probably passes the period of reproduction along the whole of the southern coast of the United States. The species is also met with in the equatorial regions, where it is alike resident, as far as Surinam, but never penetrates into the interior, being, properly speaking, an oceanic genus. Its voice, like that of the Tern, is loud, harsh, and stridulous. In quest of its usual prey of small fish and mollusca, it is frequently observed skimming close along shore about the first of the flood tide, proceeding leisurely with a slowly flapping flight, and balancing itself on its long and outstretched wings, it is seen every now and then to dip, with bended neck, its lower mandible into the sea, and with open mouth receives its food, thus gleaning and ploughing along the yielding surface of the prolific deep.

They keep also among the sheltered inlets which intervene between the main land and the sea, where they roam about in companies of 8 or 10 together, passing and repassing at the flood tide, like so many grotesque and gigantic swallows, the estuaries of the creeks and inlets which penetrate into the salt marshes, exhibiting the necessary alertness in the capture of their approaching prey, which often consists of small crabs, and the more minute crustaceous animals, which abound in such situations, and around the masses of floating sea-weeds and wreck. But though so exclusively maritime, the range of the Cut-water is entirely limited to the peaceful and calm borders of the strand; notwithstanding the vast expansion of their long wings, they have no inducement to follow the adventurous flight of the Petrel, as the ever agitated and wave-tossed surface of the restless deep, would be to them, with the peculiar mechanism of their bill, a barren void, over which they consequently never roam, and on whose bosom they rarely ever rest, preferring with the Terns, when satisfied with food, the calm, indolent, and surer repose of the insolated shoal left bare by the recess of the tide, where associated in flocks they are often seen to rest from their toilsome and precarious employ.

The Skimmer is about 19 inches in length, the closed wings extend beyond the tail 4 inches: alar stretch 44 inches! Length of the lower mandible 4½ inches; of the upper 3½, both red, tinged with orange, and tipt with black. Upper part of the head, neck, back and scapulars, black; wings the same, except the secondaries which are white on their inner vanes, and also tipt with white. Tail forked, the two middle feathers about an inch and a half shorter than the exterior ones, all black, broadly edged on either side with white: tail coverts white on the outer sides, black in the middle. — Front, passing down the neck below the eye, throat, breast, and whole lower parts, white. Legs and webbed feet, red lead color. — The *female* only 16 inches long, and 39 in alar stretch; similar with the male in plumage, except in the tail which is white, shafted, and broadly centered with black.

TERNS, OR SEA-SWALLOWS. (STERNA, *Lin.*)

IN these birds the BILL is as long or longer than the head, almost straight, compressed, subulate and acute at the point; edges sharp; upper mandible more or less curved at the tip, never hooked, the lower equal in length with the upper. NOSTRILS towards the middle of the bill, longitudinal, linear, pervious. *Tongue* slender, cleft and acute at tip. FEET small, a naked space above the knee; tarsus shorter than the middle toe; toes 4, the 3 anterior united by a sinuated membrane or web; hind toe and its nail very short, touching the ground merely at tip. *Nails* small and curved. *Wings* very long and acuminated, incurved; 1st primary longest. Tail of 12 feathers, rather long, and generally forked.

The sexes alike in color; the female a little smaller. The young differing from the adult during the first or second moult. The moult takes place twice in the year; in the spring changing the color of the head only: the plumage soft and copious. The colors white, with ashy-blue tints, and some parts black; or black with some white. The young more or less mottled and varied, with dusky colors, unknown in the adults.

The Terns, or Swallows of the ocean, usually congregate in flocks, and live almost continually in the vicinity, and on the borders of the sea; some, however, proceed inland, and indifferently inhabit lakes of fresh water, as well as the precincts of the ocean. Their flight is elevated and almost perpetual, sometimes extending so far into the ocean, as to be no indication to the mariner of approaching land. They exercise and pursue their prey by making extensive rounds or circuits, and often also skim over the surface of the water, from whence they snatch the object as it appears; at other times they are seen to hover over their quarry and dart upon it directly, falling from above with such force as to plunge into the water, and seldom miss their aim. They are scarcely ever seen upon the water, and never swim from choice: they often however alight upon the beach or sand shoal, or upon rocks and poles. The voice of the Tern is sharp, shrill, and quailing, being often repeated in fine weather, and they are extremely irritable and jealous of any intrusion on their breeding retreats. They feed mostly on fish, the larger species also attack the eggs and young of water birds; and some feed

almost wholly on insects, which, like Swallows, they sometimes seize and devour as they continue their flight. They nest in great numbers on the bare ground, slightly hollowed, or on rocks and shores, preferring such as are insulated, remaining in close community with each other; the eggs are from 2 to 4, and from their different markings and relative size in the same nest, there is reason to suppose that they sometimes lay in each others. The hatching of the eggs is mostly left to the influence of the sun, yet the young are sedulously fed and protected. — The species are met with on almost every sea coast in the world; and many are common to the whole of the same hemisphere, particularly in the cold and temperate climates. They are closely allied to the Gulls, into which they appear to pass by insensible gradations of structure.

† *In this section, the whole are clothed in white, with the back, wings and tail, pearl-grey.*

CAYENNE TERN.

(*Sterna cayana*, Lath. Ind. ii. p. 804. sp. 2. Bonap. Synops. No. 284. *S. caspia*, var. Sparmann, Mus. Carlsb. No. 62. *La grande Hirondelle-de-mer de Cayenne.* Pl. Enlum. 988. [winter livery].)

Sp. Charact. — Bill long and rather stout, orange; quill shafts white; tail moderately forked; tarsus 1¼ inches long, black; webs entire. — *Summer plumage*, with the whole crown black. *Winter dress*, with the hind head only marked with black.

Of this species, very similar to others, little more is known than that it is an exclusive inhabitant of America, though reported to have been sometimes seen also in Europe. It inhabits the coasts of the tropical seas, and is frequent in Cayenne and other warmer parts of the continent, as well as common along the coasts of the Southern States of the Union.

The length of this species is about 16 inches. The hind part of the head black, in winter. The upper plumage grey, the feathers (probably in young birds,) margined with pale rufous; under part of the body white.

MARSH TERN.

(*Sterna anglica*, Montagu, Orn. Dict. Suppl. with a figure. Temm. Man. d'Orn. ii. p. 744. *Sterna aranea*, Wilson, viii. p. 143. pl. 72. fig. 6. Bonap. Synops. No. 285. Phil. Museum, No. 3521.)

Sp. Charact. — Bill very short, stout, and black; quill shafts white; tail slightly forked; tarsus black, 1½ inches long, and about equal in length with the middle toe; webs deeply sinuated; hind nail straight. — *Summer plumage;* with the crown deep black. *Winter dress*, the crown white; and with a black spot on each side of the eye.

This bird, rare in England, notwithstanding its scientific name, is very common in Eastern Europe, particularly in Hungary, and on the confines of Turkey. In the new continent, it inhabits the whole coast of the Atlantic, from New-England to Brazil. In Europe it affects the covert of rushy marshes, in the vicinity of the great lakes, and rarely ever visits the sea-coast or the ocean. They have also been seen inland, in Missouri, by Mr. Say, and probably penetrate still farther into the interior to the coasts of the great lakes of the North American continent. Wilson first observed the species on the shores of Cape May, in New-Jersey, where parties were engaged, darting down like Swallows over the salt marshes, in quest of some aquatic insects or spiders which occur upon the surface of the water. The food of the species, while here, appears wholly composed of insects; in Europe also their fare is similar, and they feed upon lepidopterous insects or moths as well as other kinds, showing, indeed by this peculiarity of appetite, their independence on the produce of the ocean, and their indifference to salt water, as preferred to fresh.

The Marsh Terns, keep apart by themselves, and breed in company on the borders of the salt marshes, among the

drift grass, preparing no artificial nest, laying 3 or 4 eggs of a greenish-olive, spotted with brown. The voice of this species is sharper and stronger than that of the Common Tern.

The length of the Marsh Tern is about 14 inches; and 34 in alar stretch. *Plumage of spring and the nuptial season;* with the whole upper part of the head and nape black; the rest of the body ashy-white, except the points of the quills which are a little darker. Line from the nostril under the eye, and all the lower parts, white. The wings extend upwards of 2 inches beyond the tail. Legs and feet black. *The young of the year* have a few longitudinal spots on the top of the head, tints of brown, ash and pale yellowish are also mingled with the bluish-ash of the back and wings: the tail is also but little forked, cinereous, with the points of the feathers white. Quills ashy-brown. All the parts below white. The base of the bill yellowish, the remainder towards the point blackish-brown. Feet brown.

THE GREAT, OR COMMON TERN.

(*Sterna hirundo*, Lin. Latn. sp. 15. Temm. ii. p. 740. Bonap. Syn. No. 286. Wilson. vii. p. 76. pl. 60. fig. 1. Richard. North. Zool. ii. p. 412? Great Tern, Penn. Arct. Zool. No. 448. *L'Hirondelle-de-mer Pierre garin*, Buff. Ois. vii. p. 331. t. 27. Pl. Enlum. 987. Bewick. ii. 181. Phil. Museum, No. 3485.)

Sp. Charact. — Bill of moderate dimensions, rather robust, red tipt with black; crown black; quill shafts white; outer vane of the 1st primary bluish-white; tail deeply forked; tarsus red, nearly 1 inch long; webs of the feet entire. — *Adult* both in summer and winter with the crown black. *Young*, soiled white, varied with grey, brown and pale rufous, and with the nape only marked with black.

The common Tern is an inhabitant of both continents, being met with on the coasts of most parts of Europe as far north as the ever inclement shores of Greenland and Spitsbergen; it is also found on the arctic coasts of Siberia and Kamtschatka. In the winter it migrates to the Mediterranean, Madeira, and the Canary Islands. In America, it

breeds along all the coasts of the Northern and Middle States, and penetrates north into the fur countries, up to the 57th parallel of latitude. They also breed on the sand-bars of the great western lakes, being frequent in those of Erie, Huron, and Superior. In short, no bird is more common along the sea coasts, and lakes, of the whole northern hemisphere, within the limits of cool or moderate temperature.

The Great Tern arrives on the coast of New Jersey about the middle of April, and soon after they are seen on the shores of New England, where they are known by the name of the Mackarel Gull, appearing, with the approach of that fish, towards the places of their summer residence. In New York it is dignified, for the same reason, with the appellation of the Sheep's-Head Gull, prognosticating also, the arrival of that dainty fish in the waters of the state. About the middle of May, still gregarious as they arrive, they commence with the cares of reproduction. Artless in contrivance, the Terns remedy the defect of a nest, by selecting for their eyries, insulated sand-bars, wide beaches, but most commonly desolate, bare, and small rocky islets, difficult of access, and rarely visited by any thing but themselves and birds of similar habits. A small hollow scratch on the surface of the shelving rock, with the aid of a little sand or gravel, merely sufficient to prevent the eggs from rolling off, are all the preparations employed by these social and slovenly birds. The eggs, about 3 or 4, are left exposed purposely to the warming influence of the sun, the parent sitting on them only in the night, or during the existence of wet and stormy weather: they are about $1\frac{3}{4}$ inches long, by $1\frac{1}{4}$ in width; of a dull yellowish or pale whitish-olive, with dark brown blotches and spots, and others of a pale hue beneath the surface, the whole often disposed in a sort of irregular ring towards the obtuse end; other eggs again, (as if of a different species of bird,) are spotted almost equally all over.

From the variety in the appearance of the eggs, it is pretty obvious that the females indifferently and frequently lay in each other's nests, in the manner of our common fowls in a state of domestication. Though to all appearance thus abandoned to accident, the nests are constantly under the surveillance of the Terns, and the appearance of an intruding visiter on the solitary spot chosen for their breeding retreat, fills the whole neighboring troop with dismay and alarm; and in defence of their young they are very bold, clamorous and resentful, sweeping round and darting down so close to the visiter as sometimes to touch his hat; making at the same time a hoarse and creaking sound, and occasionally uttering a plaintive long drawn *'pteé-way*, and when much irritated and distressed by the fall of their companions or their brood by the gun, we hear a jarring *k'k, k'k, k'k*, as well as a piping plaint, and at times they utter a bark almost like so many puppies. On a rocky islet near Nahant, in the vicinity of Boston, known by the name of the Egg Rock, 30 or 40 pairs annually breed, and among these, others are also distinguished by the name of *'pee-boo's* from the sound of their usual note.

The young are often hatched at intervals of a day or two from each other, and are carefully fed and watched for several weeks before they are in a condition to fly. At first they are fed on small fish and insects, such as grasshoppers and beetles, the hard and indigestible parts of which food appearing to be rejected by the bill in the manner of rapacious birds. The young are afterwards fed without alighting, as they skim over the spot; and then they merely drop the fish among the brood, when the strongest and most active are consequently the best served. The young at length launch out into the marshes for themselves in quest of insects; while thus engaged, at the warning voice of their parents, or the approach of an enemy, they instantly squat

down, and remain motionless until the danger be over. As soon as the young are able to fly, they are led by the old to the sand shoals and ripples where fish are abundant, and occasionally feeding them, they learn by example to provide for themselves.

While flying, the Tern exhibits uncommon watchfulness; beating the air with a steady wing, and following the track of the vessel, with an easy flight, the quick eye and moving head may be observed minutely scanning the haunts and motions of their finny prey. At the approach of winter they retire south of the limits of the Union.

The Great Tern is about 15 inches long; and 30 in alar extent. *Adult plumage;* the bill reddish-yellow, sometimes crimson, tipt with black. Whole upper part of the head black, extending to a point on the nape, and including the eyes. Sides of the neck and whole lower parts, white. Quills hoary-grey, as if bleached by the weather, long and pointed, a longitudinal stripe of white on the inner edge of each, not extending to the tips. Back, scapulars and wing coverts, bluish-white, or pale lead color. Rump and tail coverts white. Tail white, long and greatly forked, the exterior feathers being 3 inches longer than the adjoining ones, the rest gradually shorter for an inch and a half to the middle ones; the outer web of the exterior feather greyish-black. Legs and feet miniate: the webs deeply scallōped. — In the *female* the 2 outer feathers of the tail are shorter than in the male.

Note. This bird, agreeing with the European species, appears distinct from that of Richardson; in which *the tail and its coverts are pearl-grey, the outer feather white exteriorly, and the tarsus 2 lines longer.* If this should prove to be a distinct species, which is more than probable, we would distinguish it by the name of Sterna Forsteri, from the eminent naturalist and voyager who first suggested these distinctions.

ARCTIC TERN.

(*Sterna arctica*, Temm. Man. d'Orn. ii. p. 742. Bonap. Synops. No. 287. Richard. North. Zool. ii. p. 414. *Sterna argentata*, Brehm. *S. macroura*, Nauman.)

Sp. Charact. — Bill moderate, slender, red to the tip; crown black; quill shafts white; outer vane of the first primary black; tail greatly forked; tarsus ¾ of an inch. — *Adult* both in summer and winter with the crown black. *Young*, as in the preceding.

The Arctic Tern appears to supersede the common species in the hyperboreal regions of the northern hemisphere, being common around Baffin's Bay and Davis's Straits. The species also breeds abundantly in the remote land of Melville Peninsula, and along most of the shores and islands of the Arctic Sea, as well as in Labrador, where it was observed by Mr. Audubon. It is also common in the Scottish isles of the Orkneys, and visits England and Scotland, proceeding at times as far as the shores of the Baltic. According to Richardson, the eggs of this species are very tapering at the small end, of a light yellowish-brown to bluish-grey, marked with many irregular brown spots of different degrees of intensity. They are deposited upon a gravelly beach or upon the sand, and the parent birds show as much anxiety for their safety, and boldness in defending them, as the Common Tern.

The Arctic Tern is about 14 inches long. In the *summer plumage*, the front, summit of the head and the long feathers of the nape of a deep black; all the rest of the parts colored as in the preceding species *The lower parts*, throat, and fore part of the neck, of the same deep ash color as the back. A very small part of the abdomen, lower tail coverts, and a band beneath the eyes, pure white. Tail a little longer than that of *S. hirundo*. Tarsus and toes very short, of a fine red. Bill lake red. Iris-brown.

SANDWICH TERN.

(*Sterna boysii*, Lath. Ind. Orn. ii. p. 806. sp. 10. Montagu, Dict. Orn. p. 449. *S. cantiaca*, Gmel. sp. 15. Temm. Man. d'Orn. ii. p. 735. *S. africana*, Lath. Ind. ii. p. 805. sp. 5. *S. striata*, Gmel. sp. 24. Lath. Ind. ii. sp. 11. Striated Tern, Lath. Synops. vi. p. 358. t. 95. [young.] Sandwich Tern, Lath. Syn. vi. p. 356. Ib. Suppl. i. p. 266. Bewick's Brit. Birds, ii. p. 204. Greater Sea Swallow, Albin. Birds, ii. pl. 88. [adult in summer dress.] *Sterna di becca color nero*, Stor. degl. ucc. v. pl. 545. [in perfect winter plumage.]

Sp. Charact. — Bill long and black, the point yellowish; feet short and black; quill shafts white; tail long and deeply forked, but shorter than the points of the closed wings; tarsus rather more than 1 inch long. — *Summer plumage*, with the whole crown black. *Winter dress*, with the crown white, the hind head only marked with black. *Young;* above varied with grey, brown and pale dull rufous; the hind head marked with black.

Few species have a wider geographic range than the Sandwich Tern. It was first observed in England, by Mr. Boys of Sandwich, where it is not uncommon, and was afterwards published by Latham. It is readily confounded with the Common Tern, (*Sterna hirundo,*) but is superior in size, besides other differences; it is rather rare on other parts of the English coast. It is believed to breed on the shores of Sandwich, and retires south in autumn, where it is probably afterwards seen migrating to the coast of Africa to pass the winter, and the young birds have been brought from the distant shores of New Zealand. According to Temminck it is very abundant in the isles of North Holland, and chiefly frequents the sea coast, though sometimes it has been known to wander into the interior and visit fresh waters. In the Leverian Museum, there existed, some years ago, a specimen of the young bird from South America, but it was left for our indefatigable friend, Audubon, to discover this interesting cosmopolite within the boundary

of the United States. In 1832, he, with his party, obtained a considerable number of specimens in summer plumage, during the month of May, in East Florida, and they were particularly abundant in the vicinity of Indian Key, about 30 miles from Cape Sable. In this place, in the usual manner of the genus, they breed together in large companies.

According to Temminck, they deposit their eggs on the sea beach, in the low meadows which are submerged in winter; and often also, according to the convenience of the locality, upon the shelves of naked rocks. The eggs, 2 or 3, are white or whitish, sprinkled with large and small blackish spots, or marbled with brown and black. Like most of the species, they feed on living fish, and it has all the manners and habits of the Common Tern.

The Sandwich Tern is near upon 18 inches in length. In the *winter plumage*, the front and summit of the head are white; but barred towards the hind head, with very small black spots; the long feathers of the occiput black, but fringed with white; a black crescent in advance of the eyes. Nape, top of the back, all the lower parts, and the tail brilliant white. Back, scapulars and wing coverts very pale bluish-ash. Quills velvety ash, all of them bordered by a large band of white. Bill deep black, ochre-yellow at the point. Iris blackish. Feet black, beneath ochre-yellow.

The spring and nuptial plumage; with the front, summit of the head, and long feathers of the occiput, deep black, without any spots. Fore part of the neck and breast, rose white, more or less lively and brilliant, according to age and the epoch of the moult: the rest as in the winter plumage.

In the young of the year, the white and black colors of the head and nape are blended with very pale rufous tints. All the parts below white. Upper part of the back and scapulars whitish rufous, transversely lined with blackish-brown bands. The larger scapulars widely bordered with brown; wing coverts tipped with semicircular bands. Secondaries and primaries blackish-ash, edged and tipped with white. Bill livid black, slenderly tipped with yellowish. Tail feathers cinereous at the base, blackish beyond, and terminated with white.

ROSEATE TERN.

(*Sterna Dougalli*, Montagu, Dict. Orn. Suppl. Dict. p. 432. [ed. alt.] Temm. Man. d'Orn. ii. p. 738. Roseate Tern, Flemming's Brit. Anim. p. 143.)

Sp. Charact. — Bill long and slender, black, orange at the base; crown black; quill shafts white; outer vane of the 1st primary black; tail deeply forked, much longer than the folded wings; tarsus orange, ¾ of an inch long. — *Adult* both in summer and winter, with the crown black? *Young*, white beneath; the bill black, and the feet yellowish.

The Roseate Tern, so frequently associated with and confounded in the character of the Common Tern, is another species common to the colder and temperate parts of both continents; being frequent upon the coasts of Scotland and England, particularly the former; it is also found in Norway, and probably also upon the borders of the Baltic; visiting the northern coasts of the ocean, in small numbers, associated with flocks of the Great Tern. The particular places of resort for the present species, according to Dr. M'Dougal, are two small, flat and rocky islands, in the Firth of Clyde, called Cumbrae islands, chiefly about Milford Bay. On these islands the Common Tern swarms to such a degree that it was scarcely possible to step without treading upon the young birds or eggs. The new species, here described, was shot by accident, without distinguishing it until it lay dead upon the ground, when the Doctor's attention was attracted by the beautiful pale roseate hue of the breast. There did not here appear to be more than about one in two hundred of the present with the Common Tern, but they were at length easily singled out by the comparative shortness of their wings, whiteness of their plumage, and by the elegance and slowness of their äerial motion,

often sweeping along or resting in the air, almost immoveable, like the soaring of a hawk; and they were also distinguishable by the comparative inferiority of their size.

M. de Lamotte has had the satisfaction to find two pairs of these birds nesting on the coasts of Picardy in company, and associated in the same places with the *S. hirundo.* In the United States they are also sparingly seen with the common species, as I have obtained an individual on the coast at Chelsea Beach, in this vicinity, and they may probably sometimes breed on the neighboring isle of the Egg Rock, or in similar places in the temperate parts of the Union. It is not mentioned by Richardson as an inhabitant of the northern parts of the continent, where however, the Common and Arctic Terns abound. Defying almost all exact geographic limits, we find, according to the observations of Mr. Audubon, that they even abound on the shores of the Tortugas, at the extremity of East Florida, where he likewise saw their nests and eggs.

The length of the Roseate Tern is about 15½ inches. Bill black, long and slender, orange at the base, length about 1½ inches. Feet and legs orange, nails black. *Summer plumage of the adults;* with the summit of the head and nape of a deep glossy bluish-black, much more intense than in *S. hirundo.* Back, scapulars and wings of a pale ash color. Sides of the neck, all the lower parts and tail, of a pure white; the breast with a faint rosaceous tint. Lateral tail feathers long and subulate, extending 2 inches or more beyond the closed wings. Outer barb of the 1st quill black; the others ash, bordered on their inner webs with a white band.

Note. Mr. Audubon, by letter, has also favored me with the following notice of what he considers to be a new species of Tern, "*Sterna Nuttalii* was procured there also (the Tortugas.) It is intermediate in size with the Sandwich Tern and the Roseate species; but its wings are, in proportion, much longer, and the tail shorter than either. The bill is pure black, and almost as large as that of *Sterna anglica.*"

SILVERY TERN.

(*Sterna argentea*, Prince Maxim. de Neuwied, Voyage, vol. i. p. 67. Temm. Man. d'Orn. ii. p. 754. [in a note.] *Sterna minuta*, Wilson, (nec Lin.) vii. p. 80. pl. 60. fig. 2. Bonap. Synops. No. 288. Phil. Museum, No. 3505.)

Sp. Charact. — Bill moderate, sulphur yellow and black at tip; crown black; front white; the 2 first quills and their shafts black, except a broad white stripe on their inner webs; tail moderately forked, of the same color with the back; tarsus yellow, about half an inch long; webs of the toes entire; nails long and acute. Length 9½ inches. — *Young* appearing soiled and spotted, and with the black of the head obsolete.

The Silvery Tern, apparently of Temminck, and the Lesser Tern of Wilson, is an inhabitant of the American continent, and was first detected as distinct from the European species, by Prince de Neuwied, in Brazil. In the United States it arrives from its hybernal retreat later than the Common Tern, and is not met with so far to the north, being unknown in the Canadian fur countries. They are, however, common in the Middle and New England States, being frequently seen coasting along the shores, or over pools and salt marshes, in quest of the insects and small shrimps, which constitute their favorite fare; they also occasionally dart down upon small fish and fry, hovering, suspended in the air, for a moment over their prey, like so many small hawks, and with equal promptness dashing headlong into the water after it, seizing it with the bill, as the feet are incapable of prehension. It sometimes makes extensive incursions along the river courses, and has been shot several hundred miles from the sea, its principal place of residence.

In the latter end of May or beginning of June, the female commences laying, the eggs, 3 or 4 in number, are

merely deposited in a slight scratch in the sand, and left to hatch in the heat of the sun; the bird, as usual, sitting on them only during the night, and in wet and stormy weather; they are nearly white, or yellowish-white, blotched almost all over with umber-brown spots, sometimes appearing shaded with others of a subdued tint beneath the surface. They are about $1\frac{1}{2}$ inches by $\frac{3}{4}$ of an inch in breadth. On approaching their breeding places, the old birds assemble in crowds around the intruder, and after a good deal of vociferation, flying round in wide circuits, they often approach within a few yards of one's head, squeaking almost like so many young pigs, and appear to be very irritable and resentful. At other times, when not excited or alarmed, they are tame and unsuspicious, particularly the young birds; often heedlessly passing the spectator within a few yards, while tracing the windings of the shore in quest of their prey.

The Silvery Tern is about $9\frac{1}{2}$ to 10 inches long. (The European species, or Lesser Tern, 8 to $8\frac{1}{2}$ inches only) and 20 in alar extent. Bill pale yellow. Front, and short line scarcely extending over the eye, white. Crown, band through the eye proceeding to the base of the nostrils and hind head, black, this color descending to a point on the nape. Cheeks, or all the space beneath the eye, sides of the neck and whole lower parts bright glossy white. Neck above, upper part of the back, rump, tail coverts, and wings, pale ash, or pearl grey. The 2 first primaries and their shafts black, their inner edges with a broad white space. Tail pale ash, white beneath, forked, the 2 outer feathers about an inch and 4 lines longer than the inner ones, and tapering to a point. Legs and feet yellow, claws black, compressed, narrow, long, acute and much curved. — Obs. The tail, in the European species is *pure white*. The bill and legs orange, and its upper parts are darker; it is also a smaller bird. — By some inadvertence Wilson describes the bill and legs as *bright reddish-yellow;* we have never seen any specimens so colored, and his own figure is tinted in those parts pale yellow as in nature with us. That our bird is that of Brazil we have no further evidence

than the slight notice in Temminck; but we prefer this hazard to that of multiplying species.

†† *In this section the whole bird, when adult, in summer, is either black or dusky.*

BLACK TERN, OR STERN.

(*Sterna nigra*, Lin. Lath. Ind. ii. p. 810. sp. 24. Temm. Man. d'Orn. ii. p. 749. Bonap. Synops. No. 289. Richard. North. Zool. ii. p. 415. *S. fissipes*, Gmel. sp. 7. *S. obscura*, Ib. Lath. Ind. sp. 25. Short-Tailed Tern, (*S. plumbea.*) Wilson, vii. p. 83. pl. 60. fig. 3. [young.] Black Tern, Penn. Arct. Zool. ii. p. 525. No. 450. Brown Tern, Lath. Syn. *Guifette noire, ou Epouvontail.* Buff. Ois. viii. p. 341. Pl. Enlum. 333. [adult.] Phil. Museum, No. 3519.)

Sp. Charact. — Bill slender and black; tail slightly forked; feet blackish-brown; tarsus from 7 to 8 lines; webs of the toes deeply sinuated. — *Summer plumage*, wholly blackish-ash. *Winter dress* lead color, with the head and neck deep black; front, throat, and vent white. *Young* white; nape blackish; back, wings, and tail, brownish, skirted with dilute, or soiled rufous-white.

This is another aquatic bird common to the northern regions of both continents, extending its residence to the limits of the Arctic circle; breeding in the fur countries of the interior upon the borders of lakes and in swamps. It is also very common in Holland and in the great marshes of Hungary, and has been observed round the salt lakes of Siberia and Tartary. In Europe it is met with as far as Iceland. In all situations it appears to prefer the borders of rivers, lakes, or marshes, to the vicinity of the sea, except when engaged in its migrations.

The Stern is a common summer inhabitant of England, appearing, according to Montagu, in Romney Marsh, in Kent, about the latter end of April, breeding on the sedgy borders of pools, and though very near to the sea, they are

rarely seen on the shores till after the breeding season, and are then uncommon. It lays 3 or 4 light olive-brown eggs, blotched and spotted with brown and black, the spots sometimes crowded almost into a circle about the middle of the egg. They breed likewise in the fens of Lincolnshire; making a nest of flags or broad grass upon a tuft just elevated above the surface of the water.

The young of this species are rather common on the coasts of New Jersey during autumn, on their way still farther south to pass the winter. Wilson observed a flock of these driven inland as far as the meadows of the Schuylkill, by a violent storm from the north-east. Hundreds of them were to be seen at the same time, accompanied by flocks of the Yellow-Legs, and a few Purres *(Tringa alpina.)* Famished by the accident which had impelled them from their usual abodes, they were now busy, silent and unsuspicious, darting down after their prey of beetles, grasshoppers and other insects, now afloat by the inundation, without hesitating, though perpetually harassed by gunners, who had assembled to view the extraordinary spectacle of these rare flocks of wandering birds. In ordinary, as in Europe, they frequent mill-ponds and fresh-water marshes, in preference to the bays and the sea coast.

The Stern measures about 10 or 11 inches in length. Bill black, measured from above, 1 inch 3 lines. *Winter plumage of the adults:* Head and hind part of the neck black. Front, space between the bill and eyes, throat, and fore part of the neck to the breast, pure white. Breast, vent, and abdomen blackish-ash. All the upper parts, rump, and tail feathers bluish-ash, or lead color. Lower tail coverts white; the two first quills fringed with white only at the extremities of their inner barbs. Iris brown. Feet and legs dark brown, or purplish-black.

Spring and nuptial plumage; with the front, space between the bill and eyes, throat, and fore part of the neck, which are white in winter, are in summer of a blackish-ash color like the other parts.

In the *young of the year before the autumnal moult*, the front, space between the eye and bill, sides and fore part of the neck, as well as all the lower parts pure white; upon the sides of the breast there is a large patch of blackish-ash. A crescent before the eyes, top of the head, occiput and nape black. Back and scapulars brown, bordered and tipped with pale rufous-white. Wings, rump, and tail, ash, the coverts edged with rufous-white. Bill brown at its base. Iris brown. Feet and legs livid brown. It is then, the *Sterna nævia*, Gmel. sp. 5. *S. boysii*, var. *A.* Lath. Ind. ii. p. 806 sp. 10. *A. La Guifette*, Buff. Ois. viii. p. 339. Pl. Enlum. 924. Sandwich Tern, var. *A.* Lath. Synops. vi. p. 358. Lesser Sea-Swallow, Albin. Birds. ii. tab. 90. *S. plumbea*, or Short-Tailed Tern, Wilson, vii. p. 83. pl. 60. fig. 3.

SOOTY TERN.

(*Sterna fuliginosa*, Gmel. Wilson, viii. p. 145. pl. 72. fig. 7. Bonap. Syn. No. 290. *L'Hirondelle de-mer à grande enverguer*, Buff. viii. p. 345. Sooty Tern, Penn. Arct. Zool. ii. No. 447. Lath. Synops. iii. p. 352. Phil. Museum, No. 3459.)

Sp. Charact. — Bill black; front, exterior edge of the outer tail feathers and all beneath white; tail deeply forked; webs of the toes entire.

This species generally inhabits the tropical seas; being widely dispersed into either hemisphere. It is observed on the coasts of New Holland, New Guinea, and as far south nearly as the 49th parallel. In the 8th degree of south latitude, in the isle of Ascension, they breed in swarms, each laying 2 or 3 eggs, of a large size, yellowish, spotted with brown, and pale purple. The flocks which possessed the various parts of the island, perpetually breeding, in this mild latitude, were found laying at different times. In some places the young were hatched and grown, in others were seen eggs newly laid. They uttered a sharp and shrill cry, and were so fearless of the men who visited the island, as to fly

almost upon them. The species is migratory, however, even in these mild climates. Along the coasts of Georgia and Florida, Wilson observed them in numerous flocks in the month of July. They were very noisy, darting down headlong after small fish. This bird frequently settles on the rigging of ships at sea, and, in common with the following species is called by sailors the Noddy.

The length of the Sooty Tern is about 17 inches; the alar extent about 3 feet 6 inches. Bill 1½ inches long, the upper mandible slightly serrated near the point. Irids dusky. Forehead, as far as the eyes, white. Whole lower parts and sides of the neck, white; the rest of the plumage black. Wings very long, when closed extending nearly to the extremity of the tail, which is deeply forked; the 2 exterior feathers four inches longer than those in the middle, the whole black, except the 2 outer feathers which are white, but a little blackish towards their extremities on the inner vanes. Legs and feet black.

NODDY.

(*Sterna stolida*, Linn. et Lath. Bonap. Synops. No. 291. *Hirondelle de-mer brune de la Louisiane*, Buff. Pl. Enlum. 997. *Le Noddi*, Ibid. viii. p. 461. Noddy, Catesby, i. p. 88. Penn. Arct. Zool. ii. No. 446. *Passer stultus*, Foolish Sparrow, Ray. Synops. in loc.)

Sp. Charact. — Bill black; crown whitish; tail rounded; webs of the toes entire.

This Common and well known species inhabits all parts of the tropical seas, and migrates occasionally as far as the coasts of the United States; at which times they are generally seen in flocks, and are by no means rare. Familiar to mariners, who navigate in the equatorial regions, the Noddy, like the voyager, frequents the open seas to the distance of some hundreds of leagues from the land, and with

many other birds of similar appetites and propensities, they are seen in great flights assiduously following the shoals of their finny prey. They pursue them by flying near the surface of the water, and may now be seen continually dropping on the small fish, which approach the surface to shun the persecution of the greater kinds by whom they are also harassed. A rippling and silvery whiteness in the water marks the course of the timid and tumultuous shoals; and the whole air resounds with the clangor of these gluttonous and greedy birds, who exulting or contending for success, fill the air with their varied but discordant cries. Where the strongest rippling appears there the thickest swarms of Noddys and sea fowl are uniformly assembled. They frequently fly on board of ships at sea, and are so stupid or indolent on such occasions, as to suffer themselves to be taken by the hand from the yards on which they settle; they sometimes, however, when seized, bite and scratch with great resolution; leading one to imagine, that they are disabled often from flight by excessive fatigue or hunger.

The Noddys breed in great numbers in the Bahama islands, laying their eggs on the bare shelvings of the rocks; they also breed on the Roca Islands and various parts of the coast of Brazil and Cayenne. According to the accounts of voyagers they lay vast numbers of eggs on certain rocky isles contiguous to St. Helena, and the eggs are there accounted a delicate food. Some have imagined that the appearance of the Noddy at sea indicates the proximity of land, but in the manner of the Common Tern, they adventure out to sea, and like the mariner himself, the shelter of whose friendly vessel they seek, they often voyage at random, for several days at a time, committing themselves to the mercy of the boundless ocean; and having at certain seasons no predilection for places, where the cli-

mate suits, the roving flocks or stragglers, find equally a home on every coast, shoal or island.

The Noddy, (so termed from its apparent stupidity) is about 15 inches in length. The bill about 2 inches long, slender and black. The whole plumage is of a sooty brown, except the top of the head which is white, fading gradually into cinereous on the nape. The quills and tail are darker than the rest of the plumage; and the legs black.

GULLS. (LARUS. *Linn.)*

IN these birds the BILL is of moderate dimensions, stout, hard, straight, compressed, naked at base, with the edges sharp and bent inward; the upper mandible rounded above, rather sharp, and curved at the point; the lower somewhat shorter, gibbous and angular beneath the point, blunt and oblique at the tip. NOSTRILS medial, lateral, longitudinal, linear, wider and rounded anteriorly, open, and pervious. *Feet* rather slender; tarsus nearly equal to the middle toe; webs entire; lateral toes margined exteriorly with a narrow membrane; hind toe very small, articulated high upon the tarsus, and wholly raised from the ground; nails small, curved, and rather acute; hind nail sometimes wanting. *Wings* long and acute; 1st and 2d primaries nearly equal and the longest in the wing. *Tail* almost always even, of 12 feathers.

Female somewhat smaller, but similar in plumage with the male. The young, for several years (in the larger species for 4 or 5,) different from the adult. They moult twice in the year, changing the colors of the head only; the young moulting continually. The plumage is remarkably silky, elastic, and plentifully supplied with down. The colors, including the tail, always pure white, with a distinct mantle; the mantle white, pearl grey, or deep black. The young mottled with dull grey, and various tints of brownish, confusedly spotted; bill, feet, and iris dark, light colored in the adult.

The Gulls are timid, gluttonous, and cowardly birds, except when defending their young. They associate generally in large flocks, so numerous at times, as to cover the shores where they dwell, the young and old keeping in societies apart; the larger kinds being wholly

maritime, the smaller frequent rivers and lakes. They alight on rocks, shoals, or on the water; walk tolerably well, and swim with ease, but are incapable of diving. They keep much upon the wing, flying out with rapidity, a long sustained and even course, sometimes against the strongest gales of wind. Like Vultures they are voracious, feeding on every kind of animal food, whether dead or living, fresh or tainted; the larger kinds also prey upon eggs and young birds; but their principal supply is fish, whose crowding shoals they follow with much eagerness, seizing their prey with great address, as it approaches the surface of the water, darting swiftly in the quest, and at the same time submerging the head. So powerful is the gastric juice in this family of birds, that it suffices even to digest the scales of fish, feathers, and putrid matter, though when irritated they often disgorge their undigested food. They are also like other ravenous birds, patient of hunger, but eager and quarrelsome for food, and are naturally so morose and resentful as sometimes to attack each other without any apparent cause; and fall on and devour even those of their own species whom they may have accidentally wounded; being unable to resist their cannibal fondness for the taste of blood. They breed only once in the year, choosing, on such occasions, the most desert places, or savage and inaccessible rocks, retiring to the remotest of the Arctic islands, and desolate coasts, nesting, or rather merely laying their eggs on the naked rocks, or on the surface of marshy weeds, though some of the species even construct nests in low trees near the coast, as well as on the ground. The eggs are from 2 to 4; and the young leaving the nest soon after hatching, are carefully hidden, fed, and protected by their parents for several weeks before they are able to provide for themselves. The Gulls are clamorous, having a loud, shrill and harsh voice, their cries being often repeated while flying. The flesh is generally tough and unsavory; except in the young of the smaller insectivorous species, which may be considered rather as palatable game.

The tribe of Gulls are spread all over the world; the species also are numerous, and resemble each other in an extraordinary degree in all their different states of plumage.

LITTLE GULL.

(*Larus minutus*, Pallas. Gmel. Lath. Ind. sp. 5. Temm. Man. d'Orn. ii. p. 787. Bonap. Syn. No. 292. Naum. Vög. Nachtr. tab. 3. fig. 72. [adult.])

Sp. Charact. — Mantle pearl grey ; quills white at the point, shafts blackish ; tarsus 1 inch long ; hind toe very small, with the nail straight and scarcely apparent. — *Summer plumage ;* with a black hood ; wanting in the winter. *Young* spotted with grey and blackish, tail somewhat forked, with a black subterminal band : feet livid carneous.

This small species inhabits the north of both continents, and was seen in the fur countries in Franklin's first expedition, but does not appear to be at all common in those countries, and is equally rare in the United States. In eastern Europe, Russia, Livonia and Finland, it is common, but very rare in Germany and Holland. It inhabits the banks of rivers, lakes, and the interior seas of eastern Europe, particularly the shores of the Caspian and its tributary streams, and migrates in summer northward up the Wolga in order to breed. It is said to nest also in the eastern and warmer parts of Europe. Like the other small species it feeds upon insects and worms.

The length of the Little Gull is about 10½ inches. *Winter plumage of the adults*, with the front, space between the eye and bill, a large spot behind the eyes, throat, all the other lower parts and the tail, pure white. Occiput, nape, spot before the eyes and upon the orifice of the ears blackish-ash. All the other upper plumage of a pale bluish-ash, the quills also of this color, but tipped largely with pure white ; the interior of the wings black. Bill and iris blackish-brown. Feet of a very lively vermilion-red. The wings extend an inch beyond the extremity of the tail.

Summer and nuptial plumage. — All the head and the upper part of the neck, clothed, as it were, with a black hood. A white crescent behind the eyes, a portion of the lower part of the neck, and

all the lower parts of an aurora or blush-white. Rump and tail white. Back, scapulars, and the whole wing of a pure and very pale bluish-ash. Quills ash; the secondaries tipped with white. Bill of a deep lake-red. Iris dark-brown. Feet carmine-red. Length 11½ inches or a little more.

BROWN-MASKED GULL.

(*Larus capistratus*, Temm. Man. d'Orn. ii. p. 785. Bonap. Synops. No. 293.)

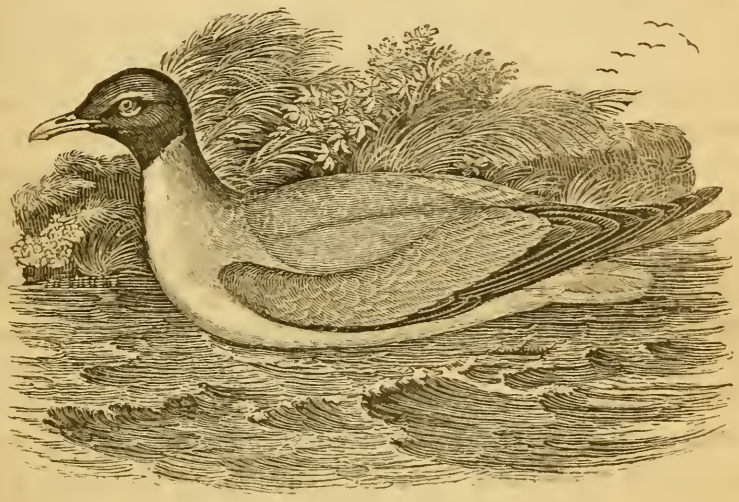
Sp. Charact. — Mantle pearl grey; quills black at the point, the outer one white, internally pale ash; shafts white; bill very slender; tarsus about 1½ inches; tail somewhat emarginate. — *Summer plumage*, the head only, covered with a light brown hood. In *winter* without the hood. *Young* spotted with greyish and blackish; tail with a black subterminal band.

This species, so very similar with the Laughing Gull, inhabits the north of both continents; migrating south on the approach of winter, at which season they are not uncommon on the shores of the Delaware and the bay of the Chesapeake. In Europe the species seldom strays from its northern breeding places, and though rare on the milder coasts of Europe, is common in the Orkney islands in Scotland. In America their summer residence appears to be on the shores and islands of Baffin's Bay and Davis's Straits, regions much more inclement in winter than their European residence, and from which they are consequently obliged to migrate early in autumn.

The eggs of this species are smaller than those of the Laughing Gull, greenish-ash with blackish-brown spots.

The Brown-Masked Gull is about 14 inches long. The *winter plumage* of this species is the same as that of the Laughing Gull, from which, however, it is still distinguishable by its smaller size, its bill much more small and slender; and the tarsus and toes shorter, have also a tint of reddish-brown.

Summer plumage, with the front of a soiled greyish-brown; summit of the head, cheeks, orifice of the ears and throat, pale brown. Occiput, nape, and fore part of the neck white; the brown upon the throat much deeper than on the head. Bill reddish-brown; the feet of the same color, but paler.



BLACK-HEADED GULL.

(*Larus atricilla*, Lin. Lath. ii. p. 813. Temm. Man. d'Orn. ii. p. 780. Bonap. Synops. No. 294. *L. ridibundus*, Wilson. ix. pl. 74. fig. 4. Laughing Gull, Catesby, Car. i. t. 89. Penn. Arct. Zool. ii. No. 454. *Mouette Rieuse*, Briss. vii. p. 192. t. 18. fig. 1. Phil. Museum, No. 3881.)

Sp. Charact. — Mantle dark bluish-ash; quills black; bill robust, and as well as the feet dark red; tarsus nearly 2 inches. — *Summer plumage*, with a dark lead colored hood on the head and neck, descending lower down before than behind. *Winter dress* without the hood. *Young* brownish, skirted with whitish and some ferruginous; the tail with a black subterminal band.

This species, very common in most parts of America, is also frequent in Europe, particularly in the warmer parts, as the coasts of Sicily, Spain, and the islands of the Mediterranean; elsewhere, in that continent it is rare and acciden-

tal. In America it is found as far south as Cayenne and Mexico, but does not appear to inhabit far north of the limits of the Union. On the coast of New Jersey they make their appearance in the latter part of April, and are soon discovered by their familiarity and noise; companies are even seen at times around the farm house, or coursing along the river shores, attending upon the track of the fishermen for garbage, gleaning among the refuse of the tide; or scattering over the marshes and plowing fields, they collect, at this season, an abundant repast of worms, insects and their larvæ. Great numbers are also seen collected together to feed upon the prolific spawn of the King-Crab. While thus engaged, if approached, they rise as it were in clouds, at the same time squalling so loudly that the din may be heard for two or three miles.

The Black-Headed Gulls breed in the marshes of New Jersey, but are not seen at this period in New England, and are indeed at all times rare in this quarter. The eggs, 3 in number, are of a drab or olive-grey, thinly marked with small irregular touches of pale purple, and dilute brown. They measure $2\frac{1}{4}$ inches by $1\frac{1}{2}$. Being apparently a somewhat tender species, they retire to the south early in autumn, and on commencing their migrations, if the weather be calm, they are seen to rise up in the air spirally, all loudly chattering as it were in concert, like a flock of cackling hens, the note changing at short intervals into a *'haw, 'ha 'ha 'ha 'haw*, the final syllable lengthened out into an excessive and broad laugh. After ascending to a considerable height, they all move off, by common consent, in the line of their intended destination.

On the 4th of March, (1830) while at Beaufort, North Carolina, in company with several other species, I saw a small flock of these risible Gulls, which every now and then, while amusing themselves by fishing and plunging

after their prey of fry, burst out very oddly into a *oh oh agh agh*, or a coarse screaming laugh. These birds had not proceeded in their migrations further probably than Florida, or the coast of the Mexican Gulf.

The length of this species is about 17 inches; alar extent 3½ feet. *Summer plumage;* the bill, bare space above the knee, legs, feet, sides of the mouth and eye-lids, dark lake-red. The bill nearly 2½ inches long. Irids dark hazel. Above and below each eye marked with a spot of white. Head and part of the neck black; remainder of the neck, breast, whole lower parts, tail coverts and tail, pure white. Scapulars, wing coverts, and whole upper parts dark blue ash-color. The first 5 primaries black towards their extremities; secondaries tipped widely with white, and all the primaries except the 1st and 2d slightly touched with the same. Tail nearly even, its coverts extending to within 1½ inches of its tip. The closed wings extend 2 inches beyond the tail. A delicate tint of blush is perceptible along the breast and belly.

FRANKLIN'S ROSY GULL.

(*Larus Franklinii*, Swainson and Richard. North. Zool. ii. p. 424. pl. 72. *L. atricilla*, Sabine. Franklin's Journ. p. 695.)

Sp. Charact. — Mantle pearl grey; the 5 exterior quills broadly barred with black, the first one tipped with white for an inch; bill and feet vermilion-red; tarsus 20 lines long. — *Summer dress*, with a black hood.

According to Dr. Richardson this is a very common species in the interior of the fur countries, where it frequents the shores of the larger lakes. They generally associate in flocks, and are very noisy. They breed also in the neighboring marshes.

The present species is 17 inches in length: of the bill above 1 inch 5 lines. Tarsus 1 inch 8 lines. Middle toe 1 inch 3 lines. *Summer plumage:* both eye-lids, the neck, rump, tail, and whole under plumage, white; the latter and interior of the wings deeply

tinged with peach-blossom red. A black hood covering three quarters of an inch of the nape, and extending as much lower on the throat. Mantle and wings bluish-grey. The outer web of the first quill feather is black to near the tip, and a broad band of the same crosses the ends of the 5 outer primaries: all the quill feathers are terminated with white, that on the first primary and of all the secondaries being upwards of an inch long; all the shafts whitish. Bill and legs vermilion, the former obscurely barred near the tip. Bill stout, rather curved from the nostrils; its depth equal to twice its breadth. Wings an inch and a half longer than the perfectly even tail. Bare space above the knee one inch.

BONAPARTIAN GULL.

(*Larus Bonapartii*, Swain. et Richard. North. Zool. ii. p. 425.)

Sp. Charact. — With a black slender bill; the mouth and feet carmine-red; wings bordered with white anteriorly; posteriorly together with the back, pearl grey; 6 exterior quills black at the end, slightly tipped with white; the first quills entirely black exteriorly; tarsus scarcely an inch and a half long. — *Summer plumage*, with the head greyish-black.

This elegant Gull is common in all parts of the fur countries, where it associates with the Terns, and is distinguished by its peculiar, shrill and plaintive cry. It is allied to *L. capistratus* of Bonaparte. Small flocks, early in autumn, are occasionally seen on the coast of Massachusetts, and sometimes high in the air their almost melodious whistling is heard, as they proceed on their way to the south, or inland to feed. Their prey appears to be chiefly insects; and two which I had an opportunity of examining were gorged with ants and their eggs, and some larvæ of moths in their pupa state. These birds both old and young are good food.

Length of the adult 15½ inches; of the bill from above, 1 inch 3 lines. *Summer plumage;* with the neck, tail coverts, tail, whole under

plumage and interior of the wings pure white. Hood greyish-black, extending half an inch over the nape, and as much lower on the throat. Mantle pearl grey, this color extending to the tips of the tertiaries, secondaries, and two posterior primaries. The anterior border of the wing is white from its shoulder for the breadth of 4 greater primary coverts. The exterior web of the outer primary, and the ends of the first 6 are deep black, most of them slightly tipped with white, the 7th and 8th are merely blotched with black on their tips. The inner web of the first primary, and the outer webs of the 3 following ones, with their shafts, are pure white. Bill shining black. Inside of the mouth and legs bright carmine-red. Irids dark brown. Bill slender and nearly straight, conspicuously notched at the tip; much compressed at the point, and the breadth at the base exceeds its depth. Wings 2 inches longer than the tail, which is very slightly rounded laterally.

In *the young bird*, the crown of the head, back of the neck, scapulars and interscapulars are greyish-brown with paler tips. Middle of the wing and tertiaries blackish-brown, the tips lighter; bastard wing and primary coverts blotched with the same. Throat and upper part of the breast faintly tinged with buff. Tail with a blackish subterminal band. Bill brownish, pale at the base beneath. Legs clay colored. In the bird of one year old flesh-colored. In the adult specimen, as in that of Dr. Richardson, the exterior web of the 2d quill is irregularly marked with a narrow black mark on the edge.

WEDGE-TAILED GULL.

(*Larus Rossii*, Richardson, North. Zool. ii. p. 427. *L. roseus*, Jardine and Selby, Orn. Illust. p. 1. pl. 14.)

Sp. Charact. — With a pearl grey mantle; wings longer than the cuneiform tail; the outer web of the first quill feather blackish; bill black and slender; tarsus an inch long, and as well as the feet, vermilion-red.

Specimens of this species were collected on the coast of Melville Peninsula, in Sir Edward Parry's second voyage. Commander Ross afterwards in his most adventurous boat voyage towards the Pole, relates that several were seen dur-

ing the journey over the ice north of Spitzbergen, and that Lieutenant Foster also found the species in Waygate Straits, which is probably one of its breeding places.

Length of the species 14 inches; of the wing 10½ inches. Length of the bill above 9 lines; of the tarsus 1 inch 1 line *Summer plumage;* scapulars, interscapulars, and both surfaces of the wings clear pearl grey; outer web of the first quill blackish-brown to its tip, which is grey; tips of the scapulars and lesser quills whitish. Some small feathers near the eye, and a collar round the middle of the neck, pitch black. Rest of the plumage white, the neck above and the whole under plumage deeply tinged with peach-blossom red, in recent specimens. Bill black, slender, weak; the upper mandible slightly arched and compressed towards the point; rictus and the edges of the eye-lids reddish-orange. Wings an inch longer than the decidedly cuneiform tail. Legs and feet vermilion-red; tarsi rather stout, the hind toe very distinct, armed with a nail as large as that of the outer toe.

FORK-TAILED GULL.

(*Larus Sabinii*, J. Sabine, Lin. Trans. xii. p. 520. pl. 29. Sabine, (Captain) Greenl. Birds. p. 551. No. 23. Richard. Append. Parry's Second Voy. p. 360. No. 25. *Xema Sabinii*, Leach. Ross. Voyage. Append. p. 57.)

Sp. Charact. — Tail forked; bill black, with a yellow tip; first 5 primaries black, bordered with white nearly to their tips. — Adult in *summer*, with a blackish-grey hood bounded by a black collar.

This interesting species was discovered by Captain Edward Sabine, on the 25th of July, at its breeding station on some low rocky islands, lying off the west coast of Greenland, associated in considerable numbers with the Arctic Tern, the nests of both birds being intermingled. It is analogous to the Tern, not only in its forked tail, and in its choice of a breeding place, but also in the boldness which it displays in the protection of its young. The parent birds

flew with impetuosity towards those who approached their nests, and, when one was killed, its mate, though frequently fired at, continued on the wing close to the spot. They were observed to collect their food from the sea beach, standing near the edge of the water, and gleaning up the marine insects which were cast on shore. A single individual was seen in Prince Regent's Inlet, and many specimens were procured, in the course of the second voyage, on Melville Peninsula. A pair were also obtained at Spitzbergen, so that it is a pretty general summer resident on the shores of the Arctic seas, and may thus be enumerated amongst the European as well as the American birds. It arrives in these remote boreal regions in June, and retires to the southward in August. When newly killed they had all a delicate pink blush on their under plumage. The eggs, 2 in number, are deposited on the bare ground, and hatched in the last week of July. They are of an olive color with many brown blotches, and about an inch and a half in length.

The length of the species about 13½ inches; of the tail 5 inches; the wing 11 inches long: the bill from above, 1 inch; the tarsus 1 inch 4 lines; depth of the fork of the tail 1 inch. *Summer plumage;* with the head and upper part of the throat blackish-grey, bounded by a velvet black collar. Mantle bluish-grey. The anterior border of the wing, primary coverts, and 5 first primaries pitch black, the latter broadly bordered anteriorly with white nearly to their tips. The rest of the primaries, the greater part of the secondary coverts, the ends of the secondaries, tips of the tertiaries and scapulars, with the neck, tail, and whole under plumage, pure white. Bill black, with a yellow tip; the upper mandible a little curved at the point, and with a conspicuous salient angle on the lower one. Inside of the mouth and edges of the eye-lids vermilion-red. Legs and feet black. Irids the same. The bill is much smaller than that of *L. ridibundus* and *L. tridactylus*, but twice as stout as that of *L. Rossii.* Wings an inch longer than the tail. The nail of the hind toe is very small. The winter plumage and that of the young is yet unknown.

KITTIWAKE GULL.

(*Larus tridactylus*, Lath. Temm. Man. d'Orn. ii. p. 774. Bonap. Synops. No. 295. Richard. North. Zool. ii. p. 423. *Mouette Cendrée*, Buff. Pl. Enlum. 387. Kittiwake, Penn. Arct. Zool. No. 456. Suppl. p. 70. [winter dress] *Larus rissa*. Idem. Suppl. p. 70. Tarrock. Id. p. 533. *D. Ritsa*, of the Icelanders.)

Sp. Charact. — Mantle blue-grey; quills black at the point; hind toe obsolete and without nail. — *Summer plumage*, with the head and neck pure white. *Winter dress*, with the head and neck bluish-grey; slender black lines before the eyes. *Young* soiled and spotted; tail with a black subterminal band.

The Kittiwake or Tarrock is found in the north of both continents. It inhabits Newfoundland, Labrador, the islands in the Gulf of the St. Lawrence,* the coasts of the Pacific, Spitzbergen, Greenland, Iceland and the north of Europe, as well as the arctic coast of Asia and Kamtschatka. It likewise breeds in some of the Scottish islands; and is generally found about saline lakes, and the interior seas and gulfs; but is less frequent on the borders of the ocean. In autumn they spread themselves on the banks of rivers and lakes. They feed upon fish, fry and insects: and nest upon the rocks near the sea coast; laying 3 eggs of an olivaceous white, marked with a great number of small dark spots, and other greyish ones less distinct. In Iceland they inhabit the cliffs of the coast in vast numbers, and utter loud and discordant cries, particularly on the approach of rapacious birds, as the Sea Eagle, who probably prey upon their young. Both their flesh and eggs are esteemed as good food.

The length of the Kittiwake is about 15½ inches. Length of the wing 12 inches; of the bill from above, 1 inch 4 lines; tarsus about the same length with the bill. *Summer dress*, with the mantle bluish-grey. Ends of the 5 exterior quills, and outer web of the first,

* Audubon, information by letter.

black: the 4th and 5th have small white tips. Head, neck, rump, tail, and whole under plumage, white. Bill yellowish. Orbits and inside of the mouth orange colored. Legs blackish. Tail 2 inches longer than the wings. In *winter* the hind head and neck are French grey, and the plumage between the eye and bill is finely streaked with black. In the *young* the bill is black.

COMMON GULL, OR MEW.

(*Larus canus*, Lin. Temm. Man. d'Orn. ii. p. 771. Bonap. Syn. No. 296. Richard. North. Zool. ii. p. 420. *Mouette a pieds bleus.* Buff. Ois. viii. p. 428. Pl. Enlum. 977.)

Sp. Charact. — Mantle bluish-grey: quills black at the point, reaching much beyond the tail; shafts black; bill small; feet bluish; tarsus little more than 2 inches. — *Summer plumage*, with the head and neck pure white. *Winter dress;* the head and neck spotted with blackish. *Young* brownish-cinereous, varied with rusty.

The common Gull, like so many other species is common to the shores of both continents. It breeds in Arctic America, and is found in Iceland and the Russian lakes. At the approach of winter they retire south, and at this time are numerous in the Middle States of the Union. At the approach of storms they are often seen to travel inland in flocks. From its disagreeable and squalling, almost feline cry, it has received the name of *mew* and *mall.* It nests usually in the herbage, near the outlets of rivers and on the borders of the sea; the eggs are 3, of a bluish ochraceous tint, marked with irregular spots of black and cinereous. They live upon fish, worms, marine insects, and bivalve shells, which last they are known sometimes to carry up into the air and drop them on the ground in order to obtain their contents. On being alarmed they disgorge their food, but swallow it again when the fright is over.

The length of the Common Gull is about 19 inches; the wing 14 inches; the bill from above, 1 inch and nearly 5 lines; the tarsus 2

inches 1 line. *Summer plumage*, with the mantle and wings pearl grey. The first 6 quills black towards their ends, that color extending to the base of the first, but forming merely a narrow bar on the 6th; the first and second have a long white space near their tips; the others, the lesser quills and scapulars, are conspicuously terminated with white. Shafts of the two or three exterior quills black. Head, neck, shoulders, rump, tail, and whole under plumage, white. Bill considerably compressed, wax-yellow, tipped with bright yellow. Legs blackish-grey, blotched with yellow on the webs. Wings 2 inches longer than the tail; thighs bare for an inch.

RING-BILLED MEW GULL.

(*Larus zonorhynchus*, Richard. North. Zool. ii. p. 421.)

Sp. Charact. — Commissure of the stout ringed bill rather longer than the tarsus, which measures 2½ inches; ends of the quills and their shafts blackish; a short white space on the two exterior ones.

This Gull, which breeds in considerable numbers in swampy places on the banks of the Saskatchewan, bears a close resemblance to *L. canus*. Its plumage is the same, except that the white spaces near the ends of the first and second quill feathers are one half shorter, and in some specimens there is none at all on the second. It differs however, remarkably in the size of the bill, which approaches that of *L. argentatoides*, being much wider at the base, more rounded on the ridge, and stronger every way than that of *L. canus:* it has a conspicuous salient angle beneath, and is of a dutch-orange color, with a blackish ring near its tip. The wings are 2 inches longer than the tail. It is smaller than *L. argentatoides* of Bonaparte, and its nostrils are shaped like those of *L. canus*.

Length 22 inches; the wing 15 inches 3 lines; of the bill from above, 1 inch 9 lines: tarsus 2 inches 5 lines. A second male speci-

men is an inch shorter, and has the tarsus only 2 inches 2 lines long; a third individual is of intermediate dimensions.

SHORT-BILLED MEW GULL.

(*Larus brachyrhynchus*, Richard. North. Zool. ii. p. 422.)

Sp. Charact. — With a short, thickish bill; the tarsus scarcely 2 inches long; quills not tipped with white: a short white space on the 2 exterior ones, and blackish shafts.

The specimen described by Dr. Richardson was a female, killed on the 23d of May, 1826, at Great Bear Lake. Some brown markings on the tertiaries, primary coverts and bastard wing, with an imperfect subterminal bar on the tail, point it out as a young bird, in the spring moult. The bill is shorter than in *L. zonorhynchus*, and stouter than in *L. canus*, and like it, is wax-yellow, with a bright yellow rictus and point. Its tarsus is nearly one third shorter than that of the Ring-Billed Gull.

Length 19 inches; wing 13½; of the bill above, 1¼ inches; tarsus 1 inch 11 lines.

IVORY GULL.

(*Larus eburneus*, Gmel. Lath. Ind. sp. 10. Temm. ii. p. 769. Bonap. Syn. No. 297. Richard. North. Zool. ii. p. 419. Ivory Gull Penn. Arct. Zool. ii. p. 529. No. 457. *La Mouette Blanche*,' Buff. Ois. viii. p. 422. Pl. Enlum. 994.)

Sp. Charact. — Pure white; bill stout; feet black; naked space above the tarsus very small; webs of the feet somewhat indented; tarsus 1½ inches; first primary longest. — *Young;* lores and chin dusky-grey, dark brownish spots on the wing coverts and scapulars, with bars of the same on the end of the tail and tips of the quills: bill blackish, pale at the tip.

This beautiful species, called sometimes the Snow Bird, from the pure whiteness of its plumage, is found in great numbers on the coasts of Spitzberg, Greenland, Davis's Straits and Baffin's Bay, and various parts of the northern shores of the American continent. It seldom migrates far from its natal regions; is a pretty constant attendant on the whale fishers, and preys on blubber, dead whales, and other carrion. Dr. Richardson observed it breeding in great numbers on the high broken cliffs which form the extremity of Cape Parry, in latitude 70°. It is also found on the Pacific coast as far as Nootka Sound, and commonly wanders far out to sea, seldom approaching the land but during the period of incubation. Its only note consists of a loud and disagreable scream.

The length of the Ivory Gull is about 18 inches; of the wing 13; the bill from above 1 inch 3 lines; the tarsus about 1½ inches. The mature bird is pure white. The bill wax-yellow at the base, ochre-yellow towards the point. Orbits red. Irides brown. Legs and feet black. Wings an inch and a half longer than the even tail.

SILVERY GULL.

(*Larus fuscus*, Lin. Temm. Man. d'Orn. ii. p. 767. Bonap. Synops. No. 298. Herring Gull, Penn. Arct. Zool. No. 452. *Le Goeland à manteau gris brun*, Buff. Ois. viii. p. 379. *Gelb-Fussige Meve*, Meyer. Vög. Deut. 2. heft. 18. [adult.]).

Sp. Charact. — Mantle slate-black; quills almost wholly black, the wings extending 2 inches beyond the tail; bill short, but not stout; feet yellow; tarsus 2½ inches. — *Summer plumage*, head and neck pure white. *Winter dress*, with the head and neck streaked with light-brown. *Young*, blackish-grey, mottled with yellowish-rusty.

The Silvery Gull inhabits the north of Europe, Iceland, Greenland, Siberia, Newfoundland and Hudson's Bay; they

are also seen about the Caspian and Black Seas, and their tributary streams. In the Middle and Northern States they are common during winter, and extend their migrations at this period as far south as Jamaica. They breed in the milder parts of Europe, in the boreal regions of America; and are said also to pass the summer on the islands off the coast of South Carolina for the same purpose. They feed chiefly on fish, both living and dead, on fry, carrion, and rarely, on bivalve shell-fish. In a state of confinement they exhibit considerable docility, and are observed to catch beetles and other large coleopterous insects, which fly abroad in the dusk of evening. They utter harsh and piercing cries in the breeding season, and are very clamorous when disturbed in their eyries. On an island off St. David's in Wales they breed annually; the nests, made of a handful of long dry grass, are very numerous, formed among the herbage and loose stones on the summit of the island. The eggs, 2 in number, are of a dark or grey olive-brown, with dusky blotches.

The Silvery Gull is about 20 to 21 inches long. *Winter plumage of the adults*, with the summit of the head, region of the eyes, occiput, nape, and sides of the neck, white, but with all the feathers marked in the centre with a longitudinal streak of pale brown. Front, throat, all the other lower parts, back and tail of a pure white. Top of the back, scapulars and the whole wing deep black, appearing shaded with ash color. The quills almost entirely black; towards the ends of the 2 exterior ones there is an oval white spot terminating with black; secondaries and scapulars also terminating with white. Bill citron yellow: angle of the lower mandible lively red. Naked border round the eyes red. Iris very pale yellow. Feet fine yellow. — The *female* is less by an inch.

The young to the age of 3 *years. Those of the year* have the throat and fore part of the neck whitish, with longitudinal streaks of pale brown. Neck and lower parts whitish, almost totally covered with large and very deep brown spots Upper parts and all the feathers of the wings blackish-brown in the middle, each bordered with a

narrow yellowish band. Tail feathers pale grey at their base, marbled with black; all the rest of the feathers very dusky edged with white. Quills deep black, without any white spot towards the ends. Bill black, brown at its base. Feet of a dirty ochre yellow.

Summer plumage of the adults, with the summit of the head, region of the eyes, occiput and neck white, without any brown spot; the rest of the plumage as in winter.

HERRING GULL.

(*Larus argentatus*, Brunn. Orn. Boreal. p. 44. No. 149. Gmel. Syst. ii. p. 600. sp. 18. Herring Gull, Lath. Syn. vi. p. 372. No. 3. Penn. Arct. Zool. No. 452. *Goëland a manteau gris ou cendré*, Buff. Ois. viii. p. 406. t. 32. Pl. Enlum. 253. *Larus argenteus*, and *L. argentatus*, Brehm. Silvery Gull, Penn. Arct. Zool. ii. p. 533. *C.* Lath. Syn. vi. p. 375. [winter plumage.])

Sp. Charact. — Mantle bluish-grey; wings extending beyond the tail; quills black at the point, tipped with white; shafts black; first primary with a white spot and tip of the same color: tarsus nearly 3 inches. — *Summer plumage*, with the head and neck pure white. *Winter dress*, with the head and neck varied with brown lines. *Young*, blackish-ash, mottled with yellowish rusty.

The Herring Gull is common to the milder as well as cold countries of both continents. It remains throughout the year on the sea coasts of Holland and France; and is very abundant, according to Temminck, in the isles of the north of Holland. It is seen sometimes on the borders of lakes and rivers, though these visiters are chiefly the young.

Mr. Audubon found these birds breeding abundantly on Grand Manan Island, in the Bay of Funday, on low fir trees as well as on the ground, the nest being large and loose, composed of sea-weeds, roots, sticks and feathers. They are very resentful and clamorous when approached,

screaming or barking like the sound of *àkàk 'kakak*. It also inhabits on other islands, and he found it again in Labrador. It is ravenous and tyrannical to other small birds; but the young and the eggs are considered as palatable food. They live principally upon the produce of the ocean, and generally upon fish. In Europe they nest in small excavations on the summits of the downs near to the sea, as well as upon naked rocks, according to the convenience of the situation, and unite in great troops at their breeding places. They lay 2 or 3 blunt eggs, of a deep olivaceous tint, with some black and ash colored spots; often also of a pale greenish or bluish hue, with brown and ash colored scattering spots.

The length of the Herring Gull is about 2 feet. *Winter plumage of the old birds*, with the top of the head, region of the eyes, occiput, nape, and sides of the neck, white, each feather with a longitudinal pale brown streak. Front, throat, all the other lower parts, back and tail white. Top of the back, scapulars, the whole wing and its quills bluish-ash: primaries black towards their ends, all terminating in a large white space; secondaries and scapulars tipped with white. Bill ochre yellow, angle of the lower mandible lively red. Orbits yellow. Iris the same but pale. Feet livid flesh color. The females about an inch shorter than the males.

WHITE-WINGED SILVERY GULL.

(*Larus leucopterus*, Faber, Bonap. Synops. No. 301. Richard. North. Zool. ii. p. 418. "*L. glaucoides*, Temm." *L. argentatus*, Sabine, Birds of Greenland, p. 546. *L. arcticus*, Macgillivray. Wern. Trans. v. p. 268.)

Sp. Charact. — Mantle pale bluish-ash; wings extending to the tip of the tail; quills greyish-white, white at the points, their shafts pure white; tarsus 2 inches. — *Summer plumage*, with the head and neck pure white. *Winter dress* with the head and neck streaked with brown. The *young* mottled and of dingy colors.

According to Dr. Richardson, during Capt. Ross's and Sir Edward Parry's first voyages, many specimens of this Gull were obtained in Davis's Straits, Baffin's Bay and at Melville Peninsula. The plumage of the present species differs but little from that of *L. glaucus*, but the great superiority of the latter bird in point of size is sufficient to distinguish the species.

The length of the White Winged Gull is about 26 inches; the bill measured from above is 2½ inches; tarsus the same length; the middle toe 2 inches 1 line. Stretch of wing 50 inches. *Summer plumage*, with the mantle pearl grey. Quills fading to white, their shafts pure white, as well as the rest of the plumage. Bill compressed, deep; the upper mandible longer than the under, the color wine-yellow, with an orange colored spot near the tip of the lower mandible. Wings equal to the even tail. Feet flesh colored.

GLAUCOUS GULL, or BURGOMASTER.

(*Larus glaucus*, Brunn. Orn. Boreal. No. 148. Gmel. Syst. i. p. 600. Lath. Ind. sp. 7. Bonap. Synops. No. 302. Glaucous Gull, Penn. Arct. Zool. ii. p. 532. *Die grosse Seemeve, oder der Burgermeister*, Naum. Vög. tab. 35. [a good figure.])

Sp. Charact. — Mantle bluish-grey; quills greyish-white, white at the point; shafts white, tinged with ash; tarsus 3 inches; tail extending 2 inches beyond the wings — *Summer plumage*, head and neck pure white. *Winter dress*, with the head and neck varied with brown streaks. The *young* mottled, and dull colored.

This large species is almost wholly confined to the hyperboreal regions, where it indifferently inhabits both continents. It is common in Russia, Greenland, and in all the arctic and polar seas. In Baffin's Bay and the adjoining straits and coasts it is seen in considerable numbers during the summer. Its winter resorts are yet unknown. From its great rarity in the United States, it is probable that it may not migrate far from its summer residence, as there can be

no reason why it should proceed south along the Pacific in preference to the Atlantic coast. It is almost continually on the wing, uttering often a hoarse cry like the Raven. It is extremely tyrannical, greedy and voracious, preying not only on fish and small birds, but also on carrion; and is said likewise to attend on the Walrus to feed on its excrement. He wrests their prey from the weaker birds, is usually seen hovering high in the air, or seated on some lofty pinnacle of ice, from whence, having fixed his eye upon some favorite morsel, he darts down on the possessor, which, whether Fulmar, Snow-Bird, or Kittiwake, must instantly resign the coveted prize. The Auk, as well as the young Penguin, he not only robs but often wholly devours. Pressed by hunger they sometimes even condescend to share the Crow-Berry *(Empetrum migrum)* with the Ptarmigan, and it is usually,when not impelled by hunger, a rather shy and inactive bird, and much less clamorous than others of the genus. They nest upon hollow rocks, laying 3 eggs of a pale purplish-grey, with scattered spots of umber-brown and subdued lavender purple.

The length of the Glaucous Gull extends from 29 to 32 inches; the wing 19 inches; the bill above 3 inches; tarsus of the same length with the bill. — *Winter plumage*, with the head and neck streaked and mottled with very pale wood brown. The *young* are streaked longitudinally on the neck with pale brown, and the upper plumage is barred transversely with ash-grey and greyish-yellow; the tail irregularly spotted. The shafts of the primaries white, and the spots on the webs are much paler than in the young of *L. marinus* and *argentatus*. The bill is horn colored at the base, and brownish-black at the tip. Feet flesh colored.

Summer plumage, with the mantle French-grey. The edge of the wing, the ends of the first primaries, and the shafts and tips of the others, with all the rest of the plumage, white. Bill wine-yellow, marked near the tip of the lower mandible with orpiment-orange. Irids straw yellow. Legs and feet livid flesh color. The bill strong, with an angular projection near the point beneath.

BLACK-BACKED GULL, OR COBB.

(*Larus marinus*, LIN. GMEL. Syst. sp. 6. LATH. Ind. ii. sp. 6. TEMM. ii. p. 760. BONAP. Synops. No. 303. MONTAGU, Dict. Orn. p. 92. [ed. alt.] *Le Goêland noir manteau*, BUFF. Ois. viii. p. 405. t. 31. Pl. Enlum. 990. [old.] and 266. [the young of the year.] Black-Backed Gull, LATH. Syn. vi. p. 371. PENN. Brit. Zool. p. 140. t. *L.* Arct. Zool. ii. p. 527. No. 451. LEWIN's Brit. Birds, vi. t. 208. *Larus argentatoides?* BONAP. Syn. 299. RICHARD. North. Zool. ii. p. 417. Wagel Gull, LATH. Syn. vi. p. 375. [young.])

SP. CHARACT. — Mantle slate-black; quills black at the point, tipped with white; the shafts black; wings scarcely extending beyond the tail; tarsus about 3 inches. — *Summer plumage*, with the head and neck pure white. *Winter dress*, with the head and neck varied with brownish streaks. The *young* mottled and stained with dull grey and brown.

THE Saddle-Back, or Black-Backed Gull, is a general denizen of the whole northern hemisphere, and extends its residence in America as far as Paraguay. At the approach of winter it migrates not uncommonly as far as the sea coasts of the Middle and extreme Southern States. If Mr. Audubon be correct in considering *L. argentatoides*, as a state of imperfect plumage of the present species, it breeds as far north as the dreary coasts of Melville Peninsula. It is also found in Greenland, Iceland, Lapmark, and the White Sea. It is also abundant in the Orkneys and Hebrides in Scotland; but is a winter bird of passage on the coasts of Holland, France and England. It rarely visits the interior or fresh waters, and is but seldom seen as far south as the Mediterranean.

The Black-Backed Gull feeds ordinarily upon fish, both dead and living, as well as on fry and carrion, sometimes also on shell-fish, and like most of the tribe of larger Gulls,

it is extremely ravenous and indiscriminate in its appetites when pressed by hunger. It watches the bait of the fisherman, and often robs the hook of its game. As Mr. Audubon justly and strongly remarks, it is as much the tyrant of the sea fowl as the eagle is of the land birds. It is always on the watch to gratify its insatiable appetite, powerfully muscular in body and wing, it commands without control over the inhabitants of the ocean and its borders. Its flight is majestic, and like the Raven it soars in wide circles to a great elevation; at which times its loud and raucous cry or laughing bark of *'cak 'cak 'cak* is often heard. Like the keen eyed Eagle it is extremely shy and wary, most difficult of access, and rarely obtained but by accident or stratagem. It is the particular enemy of the graceful Eider, pouncing upon and devouring its young on every occasion, and often kills considerable sized Ducks. In pursuit of crabs or lobsters it plunges beneath the water; has the ingenuity to pick up a shell-fish, and carrying it high in the air drops it upon a rock to obtain its contents; it catches moles, rats, young hares; gives chase to the Willow Grous, and sucks her eggs, or devours her callow brood; it is even so indiscriminate in its ravenous and cannibal cravings as to devour the eggs of its own species. In short it has no mercy on any object that can contribute in any way to allay the cravings of its insatiable hunger and delight in carnage. Though cowardly towards man, before whom it abandons its young, its sway among the feathered tribes is so fierce, that even the different species of *Lestris*, themselves daring pirates, give way at its approach.

In Europe the Saddle-Backed Gull breeds as far south as the Lundy Islands in the Bristol channel, in England. Mr. Audubon, who lately visited the dreary coast of Labrador, found them breeding there on rocks, laying about 3 eggs, large, and of a dirty dull brown, all over spotted and splash-

ed with dark brown. The young, as soon as hatched, walk about among the rocks, patiently waiting the return of their parents, who supply them amply with food until they become able to fly, after which, as among the true rapacious birds, they are driven off and abandoned to their own resources.

This species, like others, does not attain its complete plumage until the third year, and Mr. A. is of opinion that *L. argentatoides* is no more than the immature bird. He was led also to this belief by seeing both birds, as described by authors, breeding together. The eggs and young are eatable, the latter taken before they are able to fly, are pickled in large quantities, and used in Newfoundland for winter provision.

The length of the Black-Backed Gull is nearly 30 inches; the alar stretch 5 feet 9 or 10 inches. The female about 2 inches smaller. — *Winter plumage of the old birds;* with the summit of the head, region of the eyes, occiput and nape, white, but with all the feathers longitudinally streaked with pale brown. Front, throat, neck, all the lower parts, back and tail, pure white. Top of the back, scapulars, and wings deep black, appearing clouded with bluish. Quills towards their ends black, all terminating in a large white space. Bill whitish-yellow, the angle of the lower mandible bright red. Orbits red. Iris bright yellow marbled with brown. Feet of a dull white.

In the *summer* or *breeding plumage*, the summit of the head, region of the eyes, occiput and nape are perfectly white without any brown spot: the orbits orange, but the rest of the plumage as in winter.

JAGERS. (Lestris, *Illiger.*)

With the bill moderate, robust, hard, cylindric, sharp-edged, compressed, and hooked at the tip; upper mandible with the ridge and tip distinct, and covered beyond the nostrils by a cere; the

lower of one piece, shorter, angular beneath, and obtuse at the extremity NOSTRILS towards the point of the bill; lateral, oblique, narrow, pervious, closed behind by the cere. *Tongue* channelled, acute, slightly cleft at the end. FEET slender; naked space above the knee moderate; tarsus equal to the middle toe, scaly behind; webs of the feet entire; lateral toes edged exteriorly with a narrow membrane; hind toe very small, placed almost on a level with the anterior, resting on the ground: nails strong, much curved and very acute. *Wings* moderate, acute; 1st primary longest. *Tail* slightly rounded, consisting of 12 feathers, the two middle ones very long.

The sexes alike in plumage: the young differing from the adult, and changing repeatedly. They moult twice in the year without changing their colors, which are generally dark brown, with white or light tints on the neck and under surface of the body. The young more spotted than the old, and with the middle tail feathers scarcely longer than the others. The adult is distinguished by the presence of these two long feathers. The head and eyes are large, and the neck rather stout.

These are bold and predacious birds, excepting in the breeding season, and during migration almost constantly out at sea. Their flight is high, soaring and majestic, describing circles round the objects in which they are in quest, at times they are said to appear as if tumbling over, and then fly in short curves. They are usually seen only in pairs, are voracious and parasitic, seizing their prey from other birds, particularly from the Terns and Gulls, and sometimes laying contribution even on the gigantic and cowardly Albatross; they thus attack their providers on the wing and cause them to drop or disgorge their prey, which they then seize before it arrives at the water. They also often provide for themselves, feeding on floating objects, as they never dive, and sometimes live on the flesh of cetaceous animals, shell-fish, molusca, eggs, and young birds. They inhabit the Antarctic as well as the Arctic seas, migrating only short distances towards the warmer climates in the severity of winter; they then sometimes seek out the shelter of bays and inlets, and appear less active and courageous than ordinary. They congregate in numbers to breed in the cold regions which they prefer, nesting in tufts of grass, on rocks, or merely on the sands. The eggs are 1 or 2. They show great courage in defence of their young, attacking indifferently every thing which approaches their eyries.

The genus consists at present of about 6 species, all found in the American continent, and most of them common to the coldest regions of both hemispheres. They were formerly united with the Gulls, of which they have the general port, and are equally related to the Petrels and Albatross; and in their habits bear some distant analogy to the Eagles.

SKUA GULL.

(*Lestris catarractes*, Temm. Man. d'Orn. ii. p. 792. Bonap. Synops. No. 304. *Larus catarractes*, Gmel. Lath. Ind. sp. 12. Skua Gull, Lath. Syn. vi. p. 385. Penn. Brit. Zool. p. 140. t. *L.* 6. Arct. Zool. No. 460. *Catharacta Skua*, Brunnich, No. 125.)

Sp. Charact. — Bill short, very stout, much curved; middle or long tail feathers equally broad throughout; tarsus about $2\frac{3}{4}$ inches long, moderately rough with scales. — *Adult* dark brown, neck and beneath greyish-rufous. *Young* wholly brownish, varied with ferruginous tints.

This daring Yager, or feathered pirate of the ocean has spread its dominion to the extremes of both hemispheres, dwelling chiefly on the hyperboreal or antarctic seas. It is found in the Hebrides, Orkney, Shetland, and Faröe Islands, as well as in Norway and Iceland. In America, it is found in the high northern regions; then again in many parts of the Pacific, at Port Egmont in the Falkland Islands, (hence called Port Egmont Hens.) In the latter end of December, their breeding season in that hemisphere, at Christmas Sound in Terra del Fuego, they were found in great plenty, making their nests in the dry grass. They are also seen to the east of New Zealand. Such is the extensive geographic range of this species, according to Pennant and others, at the same time, we may fairly doubt the identity of the northern and southern birds, since they are but rarely seen on their passage any great distance

towards the south. Off the coast of Newfoundland, probably this species is seen in June, widely exploring the ocean, and in the depth of winter, they migrate into the bays along the coast of Massachusetts, but I believe they are nearly unknown as far south as the coast of New Jersey. As the supposed identic species of the two hemispheres appear therefore never to meet in their range to warmer countries, proceeding rarely, if ever, into the tropics, we may almost rest satisfied that, however closely allied, they are still of distinct races, originating from different creative points of the globe.

The Cataract Yager, so called by Linnæus from the rapidity and violence with which it darts down on its prey, is a very bold and voracious species. Like the Eagle it sometimes pounces upon the domestic flocks, and tearing up a lamb, carries the mangled pieces to feed its craving brood. In the rocky island of Foula, however, better supplied with its ordinary fare from the deep, it even refrains from injuring the poultry, and in its enmity to the Eagle, defends the flocks from its attacks; so different, according to circumstances are the habits and propensities of animals. It however often preys on the small Gulls and other birds with all the rapacity of a Hawk, and for which its powerful claws seem to indicate both the ability and instinctive inclination. It is often, at the same time, satisfied with seizing on the fish, which its accidental provider easily disgorges whenever alarmed. In defence of its young its temerity scarcely knows any bound, it will at such times often attack a whole company of men, should they disturb it, or molest its cherished brood. After the breeding season, old and young take to the sea, in small companies or pairs, and venture, like the Albatross, boldly and securely over the wide ocean. Off the stormy Cape of Good Hope and Cape Horn, as in the middle of the vast Atlantic, these black

and piratical birds, like weathered mariners, are seen to levy their contributions upon the inhabitants of the deep, soaring on high above the mountain wave, and flying out in easy circling tours like so many boding Ravens, occasionally reconnoitering at a distance the sailing vessel that accidentally ventures across their wide and desolate domain. In the southern hemisphere, bold and predaceous by privation, the Skua Jager is frequently seen to attack the gigantic Albatross, beating it with violence while on the wing, and who generally escapes from the daring free-booter alone by settling down into the water. Still the Jager himself succumbs to the rage and violence of the elements, and at the approach, or during the continuance of the tempest, he condescends to seek out the shelter of the bay or the neighboring coast. They are also not unfrequently associated with the Common Tern, and have a somewhat similar cry.

The Skua, like the larger Gulls, commonly feeds on fish and mollusca, as well as on carrion and cetaceous animals, and seeking out the nests of other marine birds, he robs them frequently of their eggs. They nest themselves in the remote and cold regions, associating in large bands, on the summits of mountains, or in the herbage and heath contiguous to the coast. They lay 3 or 4 very pointed olivaceous eggs, sprinkled with large brown spots.

The length of the Cataract is about 2 feet or under; the alar stretch 4½ feet. Head and region of the eyes dark brown. Neck and all the lower parts reddish-grey, tinged with pale brown. Back and scapulars dull rufous, the lateral borders of the feathers dark brown. Wing coverts, secondaries, and tail feathers brown. Quills white for half their length, the remaining part dark brown; shafts of the quills and of the tail feathers white. Feet, nails, and bill deep black, the latter brown at its base. Iris brown. The long tail feathers extend to 3, 4, or 5 inches.

POMARINE JAGER.

(*Lestris pomarina*, Temm. ii. p. 793. Bonap. Synops. No. 305. Richard. North. Zool. ii. p. 429. and Append. Parry's 2d. Voy. p. 361. No. 26. Sab. First Voy. Do. p. ccvi. p. 22. Esquimaux Keask, Hudson's Bay Residents. *Le Stercoraire rayé*, Briss. Orn. vi. p. 152. No. 2. tab. 13. fig. 2. [the young of the year.] also Meyer, tab. 20. *(Felsen Meve.)* *Larus parasiticus*, Meyer, Vög. Deut. fol. v. 2. heft. 21. [a good figure.] Audubon, ic. ined.)

Sp. Charact. — Bill short, much curved; long tail feathers rounded at the end, and of the same breadth throughout; tarsus little more than 2 inches long, behind covered with strong asperities. — *Adult* dark brown, beneath white; feathers of the upper part of the neck long, slender, and pointed, glossy yellow. *Young* wholly brownish, varied with rufous.

This species, like most of the others, chiefly inhabits the Arctic seas of both continents, from whence they migrate short distances in winter, and are then seen in Sweden and Norway, and perhaps also in the Orkneys and the west of Scotland; the old very rarely visit the banks of the Rhine and the coasts of the ocean; the young are more given to wandering, and are sometimes even seen upon the lakes of Switzerland and Germany. According to Richardson the Pomarine Yager is seen in the Arctic seas of America and the northern outlets of Hudson's Bay. Mr. Audubon obtained specimens on the coast of Labrador. It subsists on putrid and other animal substances thrown up by the sea, and also on fish and other matters which the Gulls disgorge when pursued by it; it also devours the eggs of sea birds. It goes more to sea in winter, and also towards the south, arriving at Hudson's Bay in May, coming in from seaward. It is rare and accidental on the coast of the United States.

The Pomarine Yager breeds in elevated spots in the

marshes, or upon rocks, making a coarsely interlaced nest of the surrounding moss and herbage, laying 2 or 3 very pointed eggs of a greyish-olive, marked with a small number of blackish spots.

Length (excluding the central tail feathers) 18 inches; long tail feathers 9½ inches; wing 15 inches; bill from above 1 inch 7 lines; tarsus about 2 inches. — *Summer plumage* (male;) with the head, neck, under eye-lid, a patch at the corner of the mouth, back, wings and tail, brownish-black; flanks and sides of the breast blotched with the same. Shafts of the quill and tail feathers white, except at their tips. Neck straw yellow. Auriculars, chin, throat, breast and belly white. Vent and under tail coverts blackish-brown. Bill dark brown, tipped with black. Legs and feet black; a broad band of pale lead color on the leg below the knee.* Tail slightly rounded. Tarsus covered posteriorly by rough angular scales, resembling those of some pine cones; anteriorly the lower two thirds are acute, and covered by strong keeled scales, very different from those of *L. parasitica*, in which the anterior scales resemble those of a Gull.

In the adult bird of Temminck, the neck is of a golden yellow, and there is upon the breast a wide collar formed of brown spots. In *birds of middle age*, according to the same author, the whole body is of a dark brown; the long neck feathers yellowish-brown; the 2 long tail feathers shorter than in the adult; the bill and feet as in the adults. *(male and female.)*

The young of the year, are in general dull or blackish-brown, varied with rufous edgings and crescents; transverse zig-zags of the same on the belly and flanks. Tail coverts above and below striped with wide blackish and rufous bands. Base of the bill greenish-blue, the point black. Feet bluish-ash, the base of the toes and webs white, the rest black. Hind nail white. The long tail feathers not exceeding the rest more than half an inch.

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* Given for the first time in Audubon's excellent figure, which I have seen. Does this character really exist in the European specimens?

ARCTIC JAGER.

(*Lestris parasitica*, Temm. ii. p. 796? Richard. North. Zool. ii. p. 430. *L. Buffonii*, Bonap. Synops. No. 306? The Arctic Bird, Edwards, pl. 148?)

Sp. Charact. — Bill about 1¼ inches measured from the front, straight and notched; middle tail feathers gradually terminating in long, slender, sub-linear, acute points; tarsus 1½ inches long, slightly rough, yellowish. — *Adult* brown, neck and breast straw yellow, below white. *Young* wholly brownish.

This species inhabits the Arctic sea coasts of America and Europe in the summer, migrating to more temperate parts in winter, particularly the young, which are sometimes seen on the coast of the United States. They abound in the remote and desolate region of Melville Peninsula, the North Georgian Islands, Baffin's Bay, and Spitzbergen. In its habits and manners it resembles the preceding species.

The length of this kind is about 15 inches, (excluding the long central tail feathers;) these long feathers are 12 inches 3 lines; bill from above, 1 inch 1 or 2 lines; tarsus 1½ inches. *Adult*, with the crown, nape, quills and tail, pitch black. Back, scapulars, and lesser wing coverts, blackish-brown, with a tinge of grey. Shafts of the tail and quills whitish, except on their tips. Head beneath the level of the eye, neck above and below, and breast, straw yellow. Anterior part of the belly whitish; posterior parts, flanks and under tail coverts brownish-grey. Interior of the wing blackish-grey. Bill livid; its tip, the knee joints and feet, blackish. Tarsus largely blotched with yellow. Wings longer than the lateral tail feathers. The long tail feathers project half a foot beyond the others. Tarsus slender, reticulated behind with minute, conical, and rather acute scales.

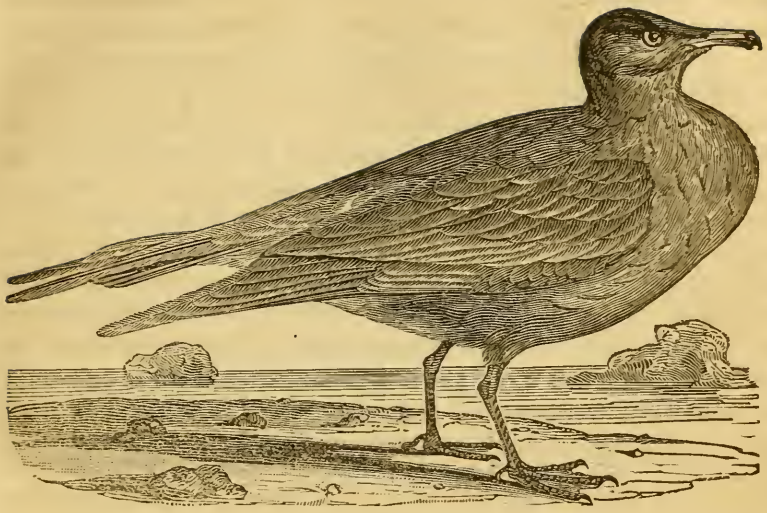
BROAD-BILLED JAGER.

(*Lestris cepphus.* Nobis. *Stercorarius cepphus*, Leach. Cat. Museum. Richard. North. Zool. ii. p. 432. [in note.] *Lestris parasitica?* Bonap. Synops. No. 307. Arctic Gull, Lath. *Die Polmowe*, Lepech. *Reise*, Th. 3. S. 224. tab. 11.)

Sp. Charact. — Bill about 1¼ inches long, straight, broad at base, entire; middle tail feathers very long, abruptly narrowing towards the extremity, being slender and acute at point; tarsus 1¾ inches long, with the protuberances obsolete. — *Adult*, blackish-brown, neck and beneath white, the former tinged with yellow. The *young* wholly brownish.

This species, like the former, inhabits the Arctic seas, and hyperborean regions, migrating short distances, and chiefly out seaward, towards milder climates in the course of the winter. It resides indifferently both in America and Arctic Europe. The young are sometimes, though very rarely, seen near the United States. Dr. Leach's specimens were killed in Hecla Bay, Spitzbergen, by Sir Edward Parry's party, where the species was abundant.

Total length 9 inches; excluding the central tail feathers 16 inches; these long feathers 9 inches; wing 13 inches; length of the bill from above, 1 inch 2 lines, the bill to the rictus 2 inches; the tarsus 1 inch 8 lines; the middle toe 1 inch 3 lines. — *Adult*, with the head above and before the eye, the whole dorsal plumage, wings and tail, nearly uniform blackish-grey. The quills and end of the tail nearly black, their shafts white. Neck above and below, as well as the throat, straw-yellow. Breast, a patch under the wings, and under tail coverts, dark greenish-grey. Belly and sides white. Bill horn color above; its tip, the legs, and feet black: transverse diameter of the bill in front 7 lines. The middle tail feathers are an inch and a quarter wide at the base, retaining most of their breadth until they pass the rest of the tail feathers, whence they suddenly and evenly taper to an acute point that projects 3 inches beyond the adjoining feathers. Tarsus stout, smooth behind; the scales somewhat elevated, though not pointed, and larger and farther apart than in the preceding species.



RICHARDSON'S JAGER.

(*Lestris Richardsonii*, Swainson. Richard. and Swains. North. Zool. ii. p. 433. pl. 73.)

Sp. Charact. — The whole plumage brown; the 2 middle tail feathers abruptly acuminated: tarsus black, 22 lines long. — *Young* unknown.

This species, according to Dr. Richardson, breeds in considerable numbers in the Barren Grounds, at a distance from the coast, in the latitude of about 65°. It feeds on shelly mollusca, which abound in the small lakes of the fur countries; and it harasses the Gulls in the same way with others of the genus. This species is occasionally seen in winter, in the inland bays in the vicinity of Boston, flying about in pairs, or sitting on the water.

Total length 22 inches 8 lines; exclusive of the central tail feathers 19: these long feathers 9 inches; the wing 13½ inches; the bill from above, 1 inch 1 line, from the rictus 1 inch 10 lines; the tarsus also 1 inch and 10 lines; the middle toe 1 inch 5 lines. — *Adult*, with the upper plumage deep blackish-brown, the back of the neck

paler. Quills and tail pitch-black. The shafts of the primaries and of the central tail feathers white to near the tips. Beneath hair-brown, mixed on the ears and sides of the neck with yellowish-brown. Under tail coverts darker. Axillaries and inner wing coverts black. Interior of the quills greyish-brown, paler than any other part of the plumage. Bill greenish-black, towards the base cylindrical, being very slightly higher than broad; culmen rounded; upper mandible towards the end rather hooked, and destitute of a distinct notch. Legs and feet of a shining velvet black. Wings an inch longer than the lateral tail feathers; the primaries acute, the secondaries truncated. Thighs bare for 8 lines. The tarsi protected anteriorly by strong falciform or crescent-shaped scales; reticulated behind, as well as the knee and tarsal joints. The soles of the feet and sides of the toes and webs covered with small thick scales, which have each a raised central ridge, or a sharp point.

SWALLOW-PETRELS. (Thalassidroma, *Vigors.*)

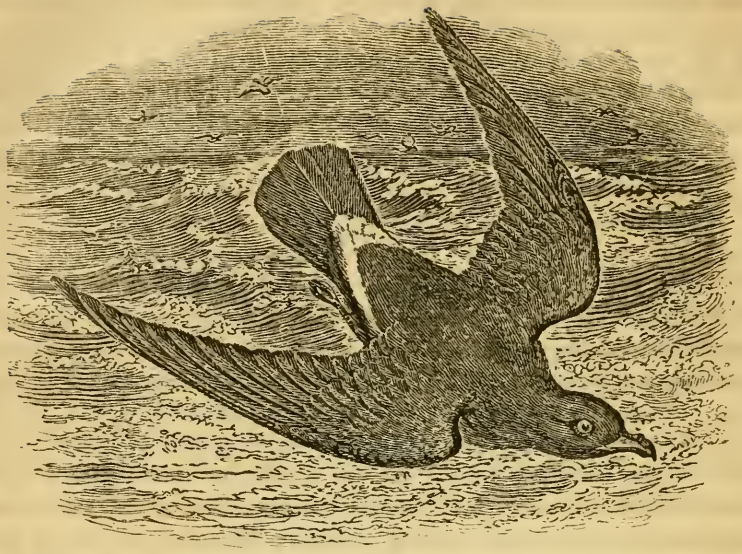
In these small birds of the ocean, the BILL is shorter than the head, slender, attenuated, much compressed, acute, and hooked at the point; upper mandible slightly seamed on each side; the lower shorter. NOSTRILS contained in a single tube carried out on the top of the bill. FEET rather long and slender; naked space above the knee extensive: tarsus longer than the middle toe, smooth; middle toe nearly equal with the outer, the inner shortest: webs of the toes small and somewhat indented: the hind toe merely a slender, acute nail. Wings long and acuminated: the 1st primary shorter than the 3d; the 2d longest. Tail of 12 feathers, emarginate or forked.

The sexes alike in plumage; and the young scarcely differ from the adult in this respect. They are said to moult twice in the year without changing their colors; which are blackish, with more or less of white, usually on the rump. They are the smallest of web-footed birds.

These are oceanic birds, wandering out far from the land nearly at all seasons of the year, and are found in all parts of the world. Their flight is rapid, like that of the swallows, which they so much resemble in general appearance; they fly low, skimming the water,

and attentively scanning its surface for their diminutive prey of marine insects and small mollusca. They venture out at all times of the day in quest of their accidental fare, and follow the wakes of vessels partly for the animal productions which are thus whirled to the surface, and not less for the fat and other animal matters which are occasionally ejected from the decks. In stormy weather they easily find shelter from the blast by skimming through the valleys of the mountain waves. They are often seen tripping upon the surface of the water, while eagerly engaged in seizing their food, balancing themselves with singular lightness, by gently flapping and fanning their expanded wings. At such times they often dip their heads beneath the water, and though they swim and rest upon that element at night and in fine weather, they are incapable of diving. Their voice is low, guttural, and somewhat chattering, particularly at night and during calm weather. They breed in society near the sea, selecting for their nests the holes and cavities of rocks, which they sometimes burrow out for themselves, but often make use of the deserted resorts of other hiding animals; the eggs are 1 or 2, and they feed their young by disgorging food; at these times, and on other occasions, they are observed to hide themselves by day, and sally out only towards twilight in pursuit of their prey. They are, however, by no means nocturnal when at sea, and are seen alike in fair or foul weather, but scarcely follow vessels but in breezes, as their own ordinary resources for obtaining food are equally productive in calm weather.

A small and natural genus, consisting of about 5 nearly allied species.



WILSON'S STORMY PETREL.

(*Thalassidroma Wilsonii*, Bonap. Synops. No. 308. Stormy Petrel, (*Procellaria pelagica,*) Wilson, vii. p. 90. pl. 60. fig. 6. *Procellaria Wilsonii*, Bonap. Journ. Acad. Nat. Sc. Philad. vi. p. 231. pl. 9. [lower figure.] Phil. Museum, No. 3034.)

Sp. Charact. — Deep sooty black; upper tail coverts wholly white; tail nearly even, the wings extending a little beyond its extremity; tube of the nostrils recurved; tarsus 1½ inches long; a yellow spot on the webs of the toes.

This ominous harbinger of the deep is seen nearly throughout the whole expanse of the Atlantic, from Newfoundland to the tropical parts of America, whence it wanders even to Africa and the coasts of Spain. From the ignorance and superstition of mariners, an unfavorable prejudice has long been entertained against these adventurous and harmless wanderers, and as sinister messengers of the storm, in which they are often involved with the vessel they follow, they have been very unjustly stigmatized

by the name of Stormy Petrels, Devil's Birds, and Mother Carey's Chickens. At nearly all seasons of the year these Swallow-Petrels, in small flocks are seen wandering almost alone, over the wide waste of the ocean.

On the edge of soundings, as the vessel loses sight of the distant headland, and launches into the depths of the unbounded and fearful abyss of waters, flocks of these dark, swift flying, and ominous birds begin to shoot around the vessel, and finally take their station in her foaming wake. In this situation, as humble dependents, they follow for their pittance of fare, constantly and keenly watching the agitated surge for floating mollusca, and are extremely gratified with any kind of fat animal matter thrown overboard, which they invariably discover, however small the morsel, or mountainous and foaming the raging wave on which it may happen to float. On making such discovery they suddenly stop in their airy and swallow-like flight, and whirl instantly down to the water. Sometimes nine or ten thus crowd together like a flock of chickens scrambling for the same morsel, at the same time pattering on the water with their feet, as if walking on the surface, they balance themselves with gently fluttering and outspread wings, and often dip down their heads to collect the sinking object in pursuit. On other occasions, as if seeking relief from their almost perpetual exercise of flight, they jerk and hop widely over the water, rebounding as their feet touch the surface, with great agility and alertness.

There is something cheerful and amusing in the sight of these little voyaging flocks, steadily following after the vessel, so light and unconcerned, across the dreary ocean. During a gale it is truly interesting to witness their intrepidity and address. Unapalled by the storm that strikes terror into the breast of the mariner, they are seen coursing wildly and rapidly over the waves, descending their sides, then

mounting with the breaking surge which threatens to burst over their heads, sweeping through the hollow waves as in a sheltered valley, and again mounting with the rising billow, it trips and jerks sportively and securely on the surface of the roughest sea, defying the horrors of the storm, and like some magic being seems to take delight in braving overwhelming dangers. At other times we see these aërial mariners playfully coursing from side to side in the wake of the ship, making excursions far and wide on every side, now in advance, then far behind, returning again to the vessel, as if she were stationary, though moving at the most rapid rate. A little after dark they generally cease their arduous course, and take their interrupted rest upon the water, arriving in the wake of the vessel they had left, as I have observed, by about 9 or 10 o'clock of the following morning. In this way we were followed by the same flock of birds to the soundings of the Azores, and until we came in sight of the Isle of Flores.

According to Buffon the Petrel acquires its name from the apostle Peter, who is also said to have walked upon the water. At times we hear from these otherwise silent birds by day, a low *weet, weet*, and in their craving anxiety, apparently to obtain something from us, they utter a low twittering *'pe-ŭp*, or chirp. In the night, when disturbed by the passage of the vessel, they rise in a low, vague and hurried flight from the water, and utter a singular guttural chattering, like *kŭk kuk k'k, k'k*, or something similar, ending usually in a sort of low twitter like that of a Swallow.

These Petrels are said to breed in great numbers on the rocky shores of the Bahama and the Bermuda islands, and along some parts of the coast of East Florida, and Cuba. Mr. Audubon informs me that they also breed in large flocks on the mud and sand islands off Cape Sable, in Nova Scotia, burrowing downwards from the surface to the

depth of a foot or more. They also commonly employ the holes and cavities of rocks near the sea for this purpose. The eggs, according to Mr. Audubon, are 3, white and translucent. After the period of incubation they return to feed their young only during the night, with the oily food which they raise from their stomachs. At these times they are heard through most part of the night, making a continued cluttering sound like frogs. In June and July, or about the time that they breed, they are still seen out at sea for scores of leagues from the land, the swiftness of their flight allowing them daily to make these vast excursions in quest of their ordinary prey; and hence, besides their suspicious appearance in braving storms, as if aided by the dark Ruler of the Air, they breed, according to the vulgar opinion of sailors, like no other honest bird, for taking no time for the purpose on land, they merely hatch their egg under their wings, as they sit on the water!

The food of this species, according to Wilson, appears to consist, as he says, of the gelatinous spora of the Gulf-weed *(Fucus natans)* as well as small fish, barnacles, and probably many small mollusca. Their flesh is rank, oily, and unpleasant to the taste. Their food is even converted into oil by the digestive process, and they abound with it to such a degree, that, according to Brunnich, the inhabitants of the Fero Isles make their carcases to serve the purpose of a candle, by drawing a wick through the mouth and rump, which being lighted, the flame is for a considerable time supported by the fat and oil of the body.

Wilson's Petrel is about 6¾ inches in length; the alar extent being about 13½. The bill black. Head, back, and lower parts brownish-black. Greater wing coverts pale brown, minutely tipped with white. Sides of the vent and whole tail coverts pure white. Wings and tail black, the latter nearly even at the tip, or but slightly forked: (in some specimens 2 or 3 of the exterior tail feathers are

white for about an inch at their base.) Legs and naked part of the thighs black : slight rudiments of a hind toe. The membrane of the foot is marked with a spot of straw yellow, and finely serrated along the edges. Irids dark brown.

FORK-TAILED STORMY PETREL.

(*Thalassidroma Leachii*, Bonap. Journ. Acad. Nat. Sc. Philad. vi. p. 229. pl. 9. [upper figure.] et Synops. No. 309. Fork-Tail Petrel, (*Procellaria furcata?*) Lath. Penn. Arct. Zool. No. 463. *Procellaria Leachii*, Temm. ii. p. 812.)

Sp. Charact. — Sooty greyish-black ; upper tail coverts white, with dusky shafts; tail deeply forked, the wings not extending beyond its extremity ; tube of the nostrils somewhat inclined upwards and obliquely truncated ; tarsus 1 inch long.

This species inhabits throughout the whole of the northern parts of the Atlantic, seeming thus to supply the place of the preceding in the colder latitudes. It was, I believe, discovered by Mr. Bullock, the enterprising traveller and well known collector in the Isle of St. Kilda, one of the Orkneys, where they were rather common, but associated in small numbers. A second individual was killed on the coasts of Picardy in France. According to the Prince of Musignano, they are not rare on the banks of Newfoundland. The Fork-Tailed Petrel of Pennant, probably the same species, was taken among the ice between Asia and America. A few years ago Mr. Ives obtained a straggler in the vicinity of Ipswich, on the coast. Their habits and mode of feeding appear to be wholly similar with the preceding, seizing insects from the surface of the water, never diving, and pattering on its surface with outstretched wings. They nest on the borders of pools and near the sea, in rat-holes, and the clefts of rocks, where, when on shore, and probably only in the breeding season, they remain con-

cealed almost the whole day. They are said to lay but a single egg, almost round, and wholly white.

Length about 7½ inches. Above sooty greyish-black; beneath a shade lighter. Top of the head somewhat darker. Wings pitch black; 2d primary longest, the 1st and 2d acute at the ends; the 1st a little longer than the 3d; the graduation very rapid beyond the 4th. Wing coverts fading into white at the extremities, and outer edges so as to produce the appearance of a greyish mantle. Scapulars broad and short, slightly tipped with white, extending to the top of the rump, which is white just above the tail; some of the longer tail coverts are however dusky and white. Sides of the rump white. All the feathers close and thick. Tail forked, the 1st feather half an inch shorter than the rest, all blunt or rounded at the ends. Legs, feet, and bill, black. The bill ¾ of an inch long; the tube of the nostrils rather short, inclined a little upwards, and obliquely truncated. — For an opportunity of describing this rare species as it occurs in America, I am indebted to Mr. Ives, who now possesses the specimen.

STORMY PETREL.

(*Thalassidroma pelagica*, Vigors. Bonap. Synops. No. 3. Append. (note 27.) *Procellaria pelagica*, Lath. sp. 19. Temm. Man. d'Orn. ii. p. 810. Bonap. in Journ. Acad. Phil. iv. p. 227. pl. 8. Stormy Petrel, Lath. Suppl. i. p. 269. Edwards, Glean. t. 90. Penn. Brit. Zool. p. 146. t. *L.* 5. *Le Pétrel*, Briss. vi. p. 140. t. 13. fig. 1.)

Sp. Charact. — Sooty black; upper tail coverts white, with black tips; tail even, the wings extending a little beyond it; tube of the nostrils nearly straight; tarsus seven eighths of an inch long.

There is reason to believe that this, as well as the preceding species, inhabits the whole Atlantic, and is consequently found on the coasts of the United States as well as those of Europe. In short, most of the Stormy Petrels, which I have seen off the soundings of the coast, have uniformly had black feet and even tails; as far as I could judge at the near distance to which they sometimes approached the vessel in which I was sailing.

The Stormy Petrel breeds in the Orkneys and Hebrides, in the holes and clefts of inaccessible cliffs impending over the sea, probably also on the American coast or its islands, and are at this time so engaged in incubation as to suffer themselves to be taken off their nests by hand. Thus the females constantly hiding in their nests when on shore, have been supposed nocturnal in their general habits, while at the same time the males are abroad throughout the whole day. The eggs of this species are said to be 2, of a soiled white, with a circle of ferruginous freckles around the larger end.

The manners of this bird are so precisely similar with those of Wilson's Stormy Petrel, the species having, till lately, been considered as one, that what has been advanced in the history of the former is equally applicable to the present. This species, as well as the two former, according to Audubon, indeed breed in the sandy islands off Cape Sable in Nova Scotia.

Length of the Stormy Petrel about 6 inches. With the head, back, wings and tail of a dull black; below sooty brown. A wide transverse band of white upon the rump. Scapulars and secondaries tipped with white. Tail and quills black. Bill and feet wholly black. Iris brown. — In the *young* the tints are darker, the edges of the feathers sooty, or somewhat rufous; but in all other respects they resemble the adults.

PETRELS. (Procellaria, *Lin.*)

In these birds the BILL is about as long as the head, robust, broad, hard, sub-cylindric and sharp on the edges, depressed at the base, compressed and suddenly swelled towards the point: the upper mandible deeply seamed each side, strongly hooked and acute at the tip; the lower shorter and narrower, angular beneath, truncated at the end. NOSTRILS united in a common tube on the top the bill. *Tongue* entire, conic. FEET stout; naked space above the knee small; tarsus shorter than the middle toe; webs large and entire; the hind toe merely a thick and blunt nail. *Wings* very long and acute; 1st primary longest. Tail of 14 feathers, rounded, or wedge-shaped.

Plumage of the sexes alike; and the young differing but little from the adult. They moult twice a year without changing their colors; in which white is prevalent.

The true Petrels are large birds living generally far out at sea, or on desolate islands, amidst rocks and ice-bergs in the coldest regions of the Arctic and Antarctic circles. They venture farther on the ocean than any other birds, regardless of the tempest they seem only aroused into greater activity at its approach. They fly, rest, and walk upon the waves; steadily impelled by the blast, their wide spread wings, like the sails of a ship seem scarcely to require any motion. Their food is fish, and the flesh of dead cetaceous, or other marine animals, mollusca, and sometimes vegetables. They associate in great numbers to breed in the clefts of rocks, or in holes burrowed in the earth, where they hide themselves during the period of incubation, and never come to land at any other time. They lay only one large egg; and feed their young by bringing up into the bill their half digested and oily food. In defence of their offspring they have a singular faculty of spurting oil upon their antagonists. Their voice is guttural and stridulous, and is often heard resounding from the depths of their burrows. The species are few and found in all latitudes; only one in the northern hemisphere. They are allied to the larger Gulls.

GIANT PETREL.

(*Procellaria gigantea*, Gmel. Lath. Synops. vi. p. 396. *Quebranta-huessos*, (Bone-breaker) Boug. Voy. p. 63. Cook's Voyage, ii. p. 205. Forster's Voy. p. 516. Buffon, ix. p. 519. Giant Petrel, Penn. Arct. Zool. ii. p. 249. No. 461.)

Sp. Charact. — Brownish, spotted with white; below white; back, wings, and tail brown; bill and legs yellow.

These gigantic birds, ludicrously called by the sailors *Mother Carey's Geese*, inhabit the two remote extremities of the American continent, being found in Staaten Land, Terra del Fuego, the Isle of Desolation, and other places in high south latitudes; as well as in 41° 10″ north, in March,

and off the coasts of Nootka Sound in April; and again further north on the American coast, in May, in pairs; from which it is probable they also breed in the northern as well as the southern hemisphere. In the sea between America and Kamtschatka, the rocks of the intervening chain of islands were quite covered by their flocks; and Steller saw multitudes feeding on a dead whale 200 versts from land. Captain Cook met with them in vast numbers in Christmas Harbor, Kerguelin's island, in December, where they were so tame as to suffer themselves to be knocked on the head with sticks on the beach.

The Giant Petrels, though so infatuated, probably in the breeding season, as to submit to death rather than abandon their resorts and young, are at other times sufficiently active and adventurous, being seen to assemble in great numbers on the approach of a storm, sailing majestically with wide expanded and scarcely moving wings close to the surface of the water, scanning the agitated bosom of the deep in quest of some fish or other object of prey raised towards the surface by the foaming billows. They also feed when opportunity offers, on the dead bodies of seals or birds, and are themselves by sailors considered as good food. Pennant thinks it probable that they migrate with the Albatross, into the southern hemisphere to breed.

The Giant Petrel is 40 inches in length; the alar extent 7 feet. The bill 4½ inches long; tube of the nostrils 2½ inches, the whole a fine dusky-yellow, resembling the color of box-wood. Top of the head dusky; the sides of it, fore part of the neck, breast, and belly, white. Hind part of the neck, and upper part of the body, pale brown, mottled with dusky-white. Scapulars, wing coverts, quills and tail, plain dusky-brown; the last 6 inches in length, and the feathers darkest in the middle. Legs 4 inches long; the toes 5, of a greyish-yellow; webs dusky; the spur behind stout and pointed but short; claws dusky.

FULMAR PETREL.

(*Procellaria glacialis*, Linn. Lath. Ind. ii. p. 823. sp. 9. Temm. Man. d'Orn. ii. p. 802. Bonap. Synops. No. 310. Fulmar Petrel, Lath. Penn. Brit. Zool. p. 145. t. *M.* fig. 1. et Arct. Zool. ii. p. 250. No. 461. *Pétrel de l'isle de St. Kilda*, Buff. Pl. Enlum. 59.)

Sp. Charact. — White; back and wings bluish-grey; tail cuneiform; bill and feet yellow. — *Young*, pale cinereous, varied with brown; bill and feet yellowish-grey.

Surrounded by an eternal winter the Petrel dwells nearly at all seasons of the year upon the Arctic Seas,

> Where undissolving, from the first of time,
> Snows swell on snows amazing to the sky;
> And icy mountains high on mountains pil'd,
> Seem to the shivering sailor from afar,
> Shapeless and white, an atmosphere of clouds
> Projected huge, and horrid o'er the surf.

Harbingers of storm and danger, they choose the wildest and most desolate of regions, where congregating amidst

the floating ice, they seek out the resorts of the whale, on whose carcase, and that of other cetaceous animals, they often make a gratifying feast, and are well known to the whale fishers who frequent these hyperboreal seas. They attend the ships in all their progress. Emphatically the bird of the tempest, the Petrel rides securely amidst its horrors, profiting by the agitation and destruction which it spreads around. Conscious of the object which the mariner has in quest, they follow the vessel, and watch the result. As soon as a whale is moored to the side of the ship, and begins to be cut up, an immense muster takes place, sometimes exceeding a thousand of these greedy birds, all stationed in the rear, watching for the morsels which are wafted to leeward. The peculiar chuckling note by which they express their eager expectation, their voracity when seizing on the fat, and the large pieces which they swallow, the envy shown towards those who have obtained the largest of these morsels, and often the violent measures taken to wrest it from them, afford to the sailors curious and amusing spectacles. The surface of the sea is sometimes so covered with them, that a stone cannot be thrown without one being struck. When an alarm is given, innumerable wings are instantly in motion, and the birds, striking their feet against the water to aid their flight, cause a loud and thundering plash.

The Petrel is not uncommon in some of the islands off the north of Scotland. At St. Kilda, one of the Hebrides, it breeds, and supplies the inhabitants with a vast quantity of oil, which is used for culinary as well as medicinal purposes. According to Pennant, "no bird is of such use to the islanders as this; it supplies oil for their lamps, down for their beds, a delicacy for their tables, a balm for their wounds, and a medicine for their distempers." He adds "that it is a certain prognostication of the change of winds.

If it come to land no west wind is expected for some time, and the contrary when it returns and keeps to sea."

Its food is chiefly fish, particularly those that are the most fat, its stomach is indeed generally charged with oil, which it has the power of ejecting forcibly from the bill and nostrils, as a mode of defence. It attends the fishing vessels on the banks of Newfoundland, feeding on the liver and offal of the cod-fish which is thrown overboard, and is known to the sailors by the quaint name of John Down. It is also taken by means of a hook baited in this manner with the offal; and the inhabitants of Baffin's and Hudson's Bay are said to salt them for winter provision; though Pennant, in the Arctic Zoology, adds that their flesh is rank and fetid in consequence of their unpleasant food, yet they are still considered as no indifferent dish by the hungry Greenlanders, and they breed usually about Disco. Like the birds of the preceding, and nearly allied genus, they nest in holes in the rocks, in great companies, at St. Kilda, about the middle of June, laying but one large, white, and brittle egg. The Fulmar is now and then, though very rarely, seen on the temperate coasts of Europe and the United States. The feathers are very close and full, clothed below with a thick and fine down.

The length of this species is about 17 inches. With the head, neck, all the lower parts, rump, and tail pure white. Back, scapulars, wing coverts and secondaries of a pure bluish-ash. Quills pale greyish-brown. Tail much rounded and forming a cone. Bill bright yellow, the nasal tube tinged with orange. Irids and feet yellow.

The young of the year, have all parts of the body pale grey, shaded with brown. The feathers of the back and wings tipped with much darker brown. Quills and tail feathers of a single shade of grey-brown. Before the eyes there is an angular black spot. Bill and feet yellowish-ash.

PUFFINS. (PUFFINUS, *Briss.*)

WITH the BILL longer than the head, slender, hard, much compressed at the point; both mandibles much curved and acute at tip; the upper seamed on each side, turgid at the point; the lower somewhat shorter, angular beneath. NOSTRILS basal, opening in two tubes. FEET moderate, stout, large; naked space on the tibia extensive; tarsus equal to the middle toe: webs entire; hind toe merely a sharp nail. *Wings* long and acute; 1st primary longest. Tail rounded, of 12 feathers.

The sexes alike in plumage; and the young differing but little from the adult. They moult twice a year without changing their colors, which are usually more or less greyish. The species of middling size.

These birds, like the Stormy or Swallow-Petrels live almost wholly out at sea, ranging far and wide without fear or danger; they are also capable of diving as well as swimming. They are continually wandering over the ocean, residing in the vicinity of shoals, banks and breakers, but are rarely seen on shore except in the breeding season, when they dig burrows, or nest in the clefts of rocks, and during incubation are almost nocturnal in their habits, going abroad only at twilight, or by day, in dark and cloudy weather. They lay but one egg, and breed in companies. The young are at first covered with long down. They feed almost wholly on fish, for which they often dive into the waves.

The species are spread all over the world. They are eminently distinguished by their power of diving from the ordinary Petrels.

CINEREOUS PUFFIN.

(*Puffinus cinereus*, CUVIER. BONAP. Synops. No. 311. *Procellaria puffinus*, and *P. cinerea*, LIN. LATH. *P. puffinus*, TEMM. Man. d'Orn. ii. p. 805. Cinereous Petrel, LATH. Syn. vi. p. 405. *Le Puffin*, BUFF. Pl. Enlum. 962. [young].)

Sp. Charact. — Bill more than 2 inches long, depressed at base, compressed where the point swells; tail wedge-shaped; tarsus 2 inches long. — *Adult* pale cinereous, wings and tail blackish-ash; beneath white; bill and feet yellowish. *Young* slate color, beneath varied with cinereous; bill blackish.

The Cinereous Puffin or Wandering Sheerwater, visits every part of the great Atlantic Ocean, from the banks of Newfoundland to Senegal and the Cape of Good Hope. It is also common in the Mediterranean, and on the southern coasts of Spain and Provence, but never proceeds to the Adriatic. On approaching the banks of Newfoundland, but far west of soundings, we see the soaring and wandering Lestris, and every day, the wild Sheerwater, but more particularly in blowing and squally weather, sometimes also in fine weather we see them throughout the day. Their course in the air is exceedingly swift and powerful. With their long wings outstretched and almost motionless, they sweep over the wild waves fearless of every danger, flying out in vast curves, watching at the same time intently for their finny prey. Like the Stormy Petrel, they are often seen to trip upon the water with extended feet and open wings, they likewise dive for small fish, and find an advantage in the storm, whose pellucid mountain waves bring to view its shining prey to more advantage; it is therefore often seen most active at such times, watching the sweeping billow as it rises and foams along, harassing and pursuing its quarry with singular address, snatching it from the surface, or diving after it through the waves, on which they are often seen to sit, as they mount to the sky or sink into the yawning abyss of the raging deep.

The nest and history of propagation in this species, probably very similar with the following, is yet unknown.

The length of this species is about 19 inches. The head, cheeks, nape and back are of a pale ash color. All the feathers of the back

terminating in paler zones of color. Scapulars, wings and tail of a blackish-ash or slate color. Quills black. Sides of the neck and breast waved with very pale ash color; all the other lower parts, white. Bill yellowish, with brown spots towards the end, which indicates still the deficiency of mature age. Feet and their webs of a livid-yellowish. Irids brown.

In the *young* the upper plumage is much darker, and below there are several places waved with ash. The bill is greyish-black, and somewhat more slender than in the old, without apparent groove, and the two tubes of the nostrils are not united under the same vault.

SHEAR-WATER PETREL.

(*Puffinus anglorum*, Ray. Synops. p. 134. *A.* 4. Montagu. Orn. Dict. p. 390. [ed. alt.] Bonap. Synops. No. 312. Mank's Puffin, Edwards. tab. 359. Shear-water Petrel, Penn. Brit. Zool. fol. p. 146. tab. *M.* et Arct. Zool. ii. No. 462. *Procellaria anglorum*, Temm. Man. d'Orn. ii. p. 806.)

Sp. Charact. — Bill very slender, almost $1\frac{3}{4}$ inches long; tail rounded, the wings extending somewhat beyond its tip: tarsus about the length of the bill. — *Adult* glossy black, beneath pure white; bill blackish.

The Manks Puffin inhabits the northern seas of both continents, but does not penetrate apparently into Arctic latitudes. It is only a rare and accidental visiter in the United States, but is sufficiently common in the northern British islands, particularly the Orkneys and the Isle of Man. In winter they migrate to the coasts of England and Ireland, and are seen also in Norway. They are found in the Orkneys, particularly at St. Kilda, and in the Isle of Man, in the breeding season, where they take possession of rabbit burrows, or other holes near shelving rocks and headlands impending over the sea, and lay one white egg, blunt at

either end. The young are fit to take in August, when great numbers are killed and salted for provision by the inhabitants. In the Orkneys they are also valued for their feathers. They arrive in February, but do not settle down to breed until April, and they migrate by the beginning of September. During the day they keep out at sea fishing, and return to their young towards evening. Their habits, generally, are wholly similar with those of the Stormy Petrels.

The Manks Puffin is about 15 inches in length. The summit of the head, nape, and generally all the upper parts of the body, the wings, tail, thighs and edges of the inferior tail coverts of a black which appears glossy. All the lower parts white. The sides of the neck waved. Bill blackish-brown. Legs and feet dark brown, the webs yellowish.

DUSKY PETREL.

(*Puffinus obscurus*, Cuvier. Bonap. Synops. No. 313. *Procellaria obscura*, Gmel. Syn. i. p. 559. Lath. Ind. ii. p. 828. sp. 24. Temm. Man. d'Orn. ii. p. 808. Dusky Petrel, Lath. Synops. vi. p. 416. Penn. Arct. Zool. Suppl. p. 73. *Stor. degli Ucc.* 5. pl. 538.)

Sp. Charact. — Bill very slender, $1\frac{1}{4}$ inches long; tail rounded, the wings extending to its tip; tarsus little more than 1 inch long. — *Adult* glossy brownish-black, beneath white: bill blackish.

This species is so nearly related to the preceding, that it appears almost the same, but diminished in size. It chiefly inhabits the temperate and warmer seas contiguous to both continents. It is rarely seen in the Mediterranean, but is found in all the Archipelago, and is very common on the coasts of Africa, at the Cape of Good Hope, and the north-west coast of America. It is never seen in the north.

Its food and the place and manner of propagation are unknown, though probably very similar with the preceding.

The length of this species is about 10½ inches. The colors exactly as in the preceding. The tarsus and toes of a reddish-brown, the webs yellow; the outer toe fringed with black. Iris blackish-brown.

ALBATROSS. (Diomedea, *Lin.*)

In these largest of marine birds the BILL is longer than the head, very robust, hard, and cutting at the edges, compressed, straight, and suddenly curved at the point; upper mandible deeply seamed on each side, strongly hooked at tip; lower mandible smooth, its end distinct, compressed and truncated at tip. Nostrils in the furrow, distant from the base, separate, covered on the sides, open before; tubes very short, partly conical, wider before than behind, lying on the sides of the bill. *Tongue* very short, fleshy, and truncated at the extremity. Feet short, robust: tarsus one fourth shorter than the middle toe; webs full and entire: no rudiment of a hind toe nor nail: nails short and obtuse. *Wings* very long and narrow; quills short: the secondaries scarcely extending beyond their coverts. *Tail* rounded, of 14 feathers.

The sexes alike in plumage; but the *young* differ much from the adult. They moult twice a year without changing their colors.

The Albatross like the Shear-water ventures out far to sea, flying generally low or skimming the surface of the waves, but in stormy weather they soar into the higher regions of the atmosphere, in which they probably enjoy a calm, while the fury of the blast is expending itself below. Though of such bulk and strength they are generally cowardly, giving way to the attacks of smaller and more predaceous birds by seeking shelter on the bosom of the sea; indeed they are constantly harassed and attacked by small parties of Gulls. They are extremely gluttonous and voracious; feed on fish, particularly those which make such prodigious leaps out of the water as to appear flying, also, on molluscous and gelatinous animals; gorging themselves sometimes to such a degree as to be unable to move,

when their feathered enemies compel them to disgorge, and at such times they are rendered so listless and inactive by gluttony, as to allow of being taken by hand. Their voice is said to be harsh, though not remarkably loud, resembling somewhat the *honk* of a goose but deeper.* They build, with clay and sedge, a rounded nest two or three feet high; and the eggs are large and several. The flesh is hard and unsavory: but the eggs are eatable.

These largest of web-footed birds are spread throughout both hemispheres, but are especially common in the high latitudes of the southern. The genus contains but 4 well ascertained species, only one of which visits the Atlantic. They are much allied to the larger species of Gull.

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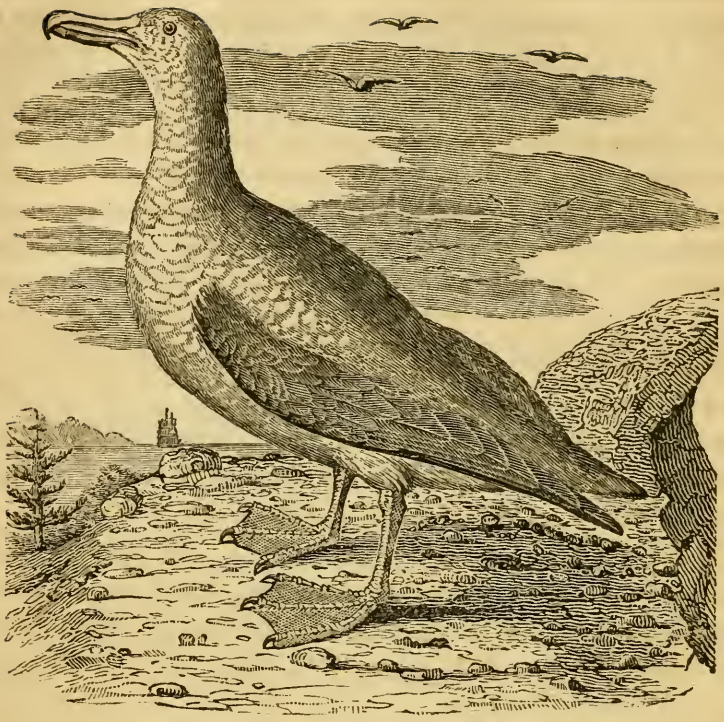
* Dr. Mc Murtrie, in a note in his translation of *Cuvier's Regne Animal.*



WANDERING ALBATROSS.

(*Diomedea exulans*, Linn. Syst. p. 214. Lath. Ind. 3. Albatross, Edwards. pl. 88. Pallas. Spicil. Zool. Fascic. v. p. 28. Wandering Albatross, Penn. Arct. Zool. ii. p. 216. No. 423. Bonap. Synops. No. 314. Sooty, or Brown Albatross, Lath. Synops. [young]. Buff. Pl. Enlum. 237. *Tschaiki* of the Kamtschadales.)

Sp. Charact. — Whitish; back and wings lineated with black; quills black, their shafts yellow; tail lead-colored, rounded. — *Young* dusky; head, wings, and tail, blackish: a white space round the eye.

The Albatross inhabits the Atlantic as well as the Pacific and sometimes wanders accidentally to the coasts of the central parts of the Union. Vagabond, except in the short season of reproduction, they are seen to launch out into the

widest part of the ocean, and it is probable that according to the seasons, they pass from one extremity of the globe to the other. Like the Fulmar, the constant attendant upon the whale, the Albatross, no less adventurous and wandering, pursues the tracks of his finny prey from one hemisphere into another. Dr. Forster saw them in the middle of the southern ocean, 6 or 700 leagues from land. When the flying fish fails they have recourse to the inexhaustible supply of molluscous animals with which the milder seas abound. They are no where more abundant than off the Cape of Good Hope, where they have been seen in April and May, sometimes soaring in the air with the gentle motion of a kite, at a stupendous height; at others nearer the water, watching the motions of the Flying Fish, which they seize as they spring out of the water to shun the jaws of the larger fish which pursue them. Vast flocks are also seen round Kamtschatka, and the adjacent islands, particularly the Kuriles and Bering's Island, about the end of June. Their arrival is considered by the natives of these places as a sure presage of the presence of the shoals of fish which they have thus followed into these remotest of seas. That want of food impels them to undertake these great migrations appears from the lean condition in which they arrive from the south; they soon however become exceeding fat. Their voracity and gluttony is almost unparalleled; it is not uncommon to sea one swallow a salmon of four or five pounds weight; but as the gullet cannot contain the whole at once, part of the tail end will often remain out of the mouth; and they become so stupified by their enormous meals, as to allow the natives to knock them on the head without offering any resistance. They are often taken by means of a hook baited with a fish, but not for the sake of their flesh, which is hard and unsavory, but on account of the intestines, which the Kamtscha-

dales use as a bladder to float the buoys of their fishing nets. Of the bones they also make tobacco pipes, needle-cases, and other small implements. When caught, however, they defend themselves stoutly with the bill, and utter a harsh and disgusting cry. Early in August they quit these inhospitable climes for the more genial regions of the south, into which they penetrate sometimes as low as the latitude of 67°.

In Patagonia and the Falkland Islands, they are known to breed, but not in the northern hemisphere to which they probably migrate only in quest of food. They repair to this southern extremity of the American continent about the time they leave the northern regions, being seen at the close of September and beginning of October (the spring of this hemisphere) associated to breed with other birds of similar habits. The nests are made on the ground with earth and sedge; of a round conic form, elevated to the height of three feet, leaving a hollow in the summit for the egg, for they lay but one, which is larger than that of a goose, white, with dull spots at the larger end; and is good food, the white never growing hard with boiling. While the female is sitting, the male is constantly on the wing, and supplies her with food: during this time, they are so tame as to allow themselves to be pushed off the nest, while their eggs are taken. But their most destructive enemy is the Hawk, who steals the egg whenever the female removes from it. As soon as the young are able to leave the nest, the Penguins take possession of it, and without farther preparation hatch their young in turn.

The Albatross though so large a bird suffers itself to be teased and harassed while on the wing by the Skua Gull or Lestris, from which it often alone finds means to escape by settling down into the water, but never attempts resistance.

The Albatross is from 3 to 4 feet long; the alar extent from 10 to 17 feet. Crown of the head pale ash-brown; the rest of the body partly white, crossed with blackish lines on the back and wings, and with spots in the same direction towards the rump. Primaries black. Tail dusky-lead color and rounded. Bill dull soiled yellow. Legs flesh colored

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GEESE. (Anser, *Briss.*)

In these large and well known birds the BILL is short or moderate, stout, at the base higher than broad, somewhat conic, cylindrical, depressed towards the point, and narrowed and rounded at the extremity; upper mandible not covering the margins of the lower, the ridge of the bill broad and elevated; the nail somewhat orbicular, curved and obtuse; marginal teeth short, conic and acute. NOSTRILS medial, lateral, longitudinal, elliptic, large, open and pervious, covered by a membrane. The *tongue* thick, fleshy, and fringed on the sides. FEET central, stout, tarsus rather longer than the middle toe; webs entire; hind toe equal to a joint of the middle one, simple, touching the ground at tip. *Wings* moderate, acute, sometimes spurred; quills strong, primaries much longer than the secondaries: 1st and 2d, or 2d and 3d only, longest. Tail rounded, containing many feathers.

Female similar in plumage to the male: the young of some species differing much from the adult, and changing their plumage repeatedly. The moult annual, and protracted. Plumage rather thick. The colors dull, being different shades of dark or light ash color. The size of the species large: and the trachea simple.

These are chiefly terrestrial and vigilant birds, living in flocks, mostly in marshes and low grounds or by the inundated banks of rivers, migrating according to the season from cold to temperate climates. Their flight is high, and long sustained, and they are usually marshalled in long converging lines. They swim but little, and sit deep in the water, scarcely ever diving, and never from choice. They walk with less awkwardness than the allied genera of Ducks and Swans, are altogether diurnal in their movements, and have excellent sight and hearing; are extremely vigilant, and when feeding or sleeping establish sentinels to advertise them of danger.

They retire at night to the water, are very clamorous while collecting; go abroad to pasture by day; and feed principally upon vegetables, and seeds, some also prey on fishes, reptiles, and small aquatic animals. They nest on the ground, laying many eggs, are disposed to polygamy, and are very courageous and resentful in defence of their young, attacking the assailant with hissing which they accompany by blows from their wings.

The species are numerous and spread all over the world, but they are most frequent in cold and temperate countries.

SNOW GOOSE.

(*Anser hyperboreus*, Pallas. Bonap. Synops. No. 315. Richard. North. Zool. ii. p. 467. *Anas hyperborea*, and *A. cærulescens*, Linn. Wilson, viii. p. 76. pl. 68. fig. 5. [adult male.] and p. 89. pl. 69. fig. 5. [young.] *Anser niveus*, Briss. vi. p. 288. 10. Snow Goose, Penn. Arct. Zool. No. 477. The Blue-winged Goose, Edwards, pl. 152. [young.] Phil. Museum, No. 2635.)

Sp. Charact. — Bill rising high upon the forehead; sides of the bill with longitudinal furrows, and denticulations; tail of 16 feathers. — *Adult* white, quills black at the point: bill and feet red. *Young* purplish-brown; wing coverts and rump, bluish-ash: more or less white according to age.

The Snow Goose, common to the north of both continents, breeds, according to Richardson, in the Barren Grounds of Arctic America, in great numbers, frequenting the sandy shores of rivers and lakes, and are very watchful, employing one of their number usually as a sentinel to warn them of any approaching danger. The eggs are of a yellowish-white color, and are a little larger than those of the Eider Duck, their length being 3 inches, and their greatest breadth 2. The young fly about the close of August, and the whole depart southward about the middle of September. Early in November they arrive in the river Delaware, and probably visit Newfoundland and the coasts

of the Eastern States in the interval, being occasionally seen in Massachusetts Bay. They congregate in considerable flocks, are extremely noisy and gabbling, their notes being shriller than those of the Canada or Common Wild Goose. They make but a short stay in the winter, proceeding farther south as the severity of the weather increases. The Snow Geese already begin to return towards the north by the middle of February, and until the breaking up of the ice in March, are frequently seen in flocks on the shores of the Delaware, and around the head of the Bay. At this time they are observed to feed on the roots of the reeds, tearing them up like hogs. In their breeding resorts in the fur countries they crop rushes, and collect insects, and in autumn principally berries for food, particularly those of the Crow-Berry.* At this time they are seldom seen on the water, except in the night, or when moulting. When well fed its flesh is excellent, being far superior to the Canada Goose in juiceiness and flavor. It is said the young do not attain the full plumage of the old birds before their fourth year, and until that period they appear to keep in separate flocks. They are numerous at Albany Fort, in the southern part of Hudson's Bay, where the old birds are rarely seen; and, on the other hand, the adult birds in their migrations visit York Factory in great abundance, but are seldom accompanied by the young. They make their appearance in these remote countries in spring, a few days later than the Canada Goose, and pass in large flocks both through the interior and along the coast. At this season they were also seen by Mr. Say in the territory of Missouri; many migrating north, probably up the great valley of the Mississippi.

The Snow Goose is also met with commonly on the

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* *Empetrum nigrum.*

western side of America, as at Aoonalashka and Kamtschatka, as well as in the estuary of the Oregon where they were seen by Lewis and Clarke. They are very abundant in Siberia, and the natives often take them in nets by means of rude decoys. In that frozen climate they afford a great article of subsistence; each family killing thousands in a season, which are laid up in bulk, in holes in the earth, and made use of as occasion requires.

The length of the Snow Goose is about 32 inches; the wings 16½ inches or upwards; the bill above 2 inches 3 lines; tarsus 3 inches. General color white. Quills pitch black; their shafts white towards the base. Head glossed with ferruginous. Irids dark hair-brown. Bill, feet, and orbits aurora-red; nails of both mandibles livid. The ferruginous tint occupies various portions of the head on different individuals, and in some extends to the neck and middle of the belly.

The *immature bird* has a few feathers on the crown and nape, the fore part of the back, ends of the scapulars, some of their coverts, and the outer webs of the tail feathers greyish-brown, all tipped, and more or less edged, with white. Tertiaries, and the rest of the plumage as in the old bird. Some individuals deviate from the full plumage merely in the bastard wing and primary coverts retaining their grey color; while in very young birds, part of the under plumage is also greyish-brown. — The bill of the adult is shaped much like that of *A. albifrons*.

WHITE-FRONTED, OR LAUGHING GOOSE.

(*Anser albifrons*, Bechst. Bonap. Synops. No. 316. Temm. Man. d'Orn. ii. p. 821. Richard. North. Zool. ii. p. 466. *Anas albifrons*, Gmel. Lath. Ind. sp. 27. White-Fronted Goose, Penn. Arct. Zool. ii. No. 476. Laughing Goose, Edwards. Glean. t. 153. *L'oie Rieuse*, Buff. Ois. ix. p. 81.)

Sp. Charact. — Brownish, beneath white varied with black; frontlet and throat white, margined with blackish; bill and feet orange; nails whitish.

This species is also common to the hyperboreal regions of both continents, migrating at the approach of winter into milder climates, being very common in Holland in autumn, but rare in Germany and France; and merely accidental in its visits to the coasts of the United States. Early in the spring, however, they were seen by Mr. Say in the lower part of Missouri. According to Richardson, this species passes at the same time, or a little later than the Snow Goose, through the interior of the fur countries in large flocks to its breeding places, which are in the woody districts skirting the Mackenzie river, to the north of the 67th parallel, and also the islands of the Arctic Sea. It is not common on the coasts of Hudson's Bay. From its rarity in the United States it probably winters on the coast of the Pacific, in common with the preceding species. The Indians imitate its call by patting the mouth with their hand, while they repeat the syllable *wah;* and the resemblance of this note to the laugh of a man has given rise to the trivial name. Its food and habits are similar with those of the preceding species.

The length of the Laughing Goose is about 27 inches; the wing 16; bill above, 2 inches 4 lines; tarsus 2 inches 7½ lines. Head and neck pale greyish-brown. Dorsal plumage clove-brown, with paler edges; secondaries tipped with white; primaries greyish-black, with white shafts. Front, region of the bill, eye-lids, tail coverts, and all the under plumage white, the belly blotched with deep black. Bill and feet orange, the tip of the former flesh-colored. — A specimen killed on the 17th of May, by Richardson, at Fort Enterprise, had all the belly light wood-brown blotched with black. — The bill as long as the head, its depth at the base two thirds of its length; the commissure curved and gaping, permitting the teeth to appear in the middle. Five or 6 rows of teeth on the palate. Wings, with the 3d quill the longest.

BEAN GOOSE.

(*Anser segetum*, Bonap. Synops. No. 317. *Anas segetum*, Gmel. Lath. Ind. sp. 28. Temm. ii. p. 820. Bean Goose, Lath. Syn. vi. p. 464. Penn. Arct. Zool. No. 472. *L'Oie Sauvage*, Buff. Ois. ix. p. 30. t. 2. Pl. Enlum. 985. *Saat Gans*, Naum. Vög. t. 42. fig. 61. *Oca Salvatica*, Stor. degli. Uec. v. pl. 561.)

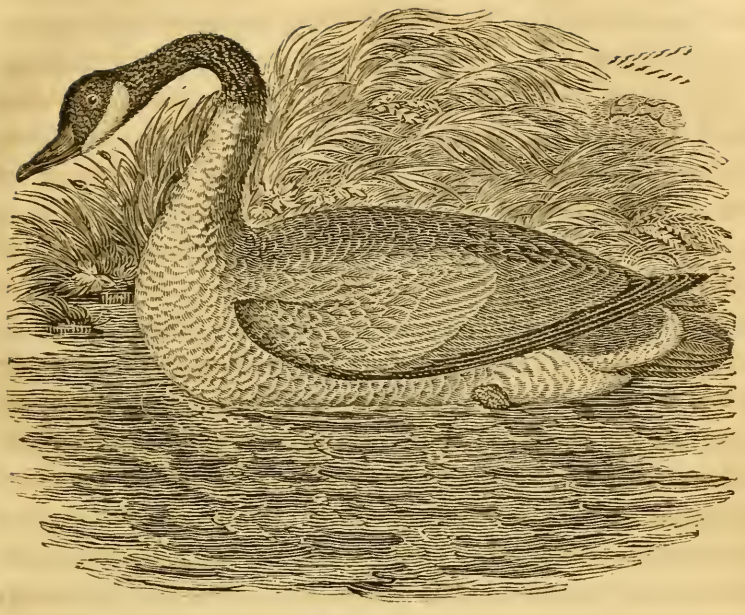
Sp. Charact. — Dark ash, beneath whitish; rump blackish; the folded wings extending beyond the tail; bill long, depressed, black and orange, nail black; tail of 18 feathers.

This species inhabits the Arctic regions of both continents, migrating periodically to and from more genial climates. It is rarely seen even in the most northern parts of Canada, and was not met with by Richardson in the Arctic expeditions which he accompanied, though Hearne speaks of seeing it in Hudson's Bay. It probably winters on the north western coast of America. In England, Germany, France and Holland it is common as a bird of passage.

The Bean Goose passes the period of reproduction in the regions of the Arctic zone, nesting in marshes and heaths, laying 10 or 12 white eggs. It is said to breed in great numbers in Lewis, one of the Hebrides, and is very destructive to the green corn. Its food consists of both aquatic and terrestrial vegetables, as well as seeds and grain.

The length of this species is about 2 feet 8 inches. The head and upper part of the neck is of an ashy-brown. Lower part of the neck and beneath pale ash color. Top of the back, scapulars, and all the wing coverts brown ash fringed with whitish. Rump blackish-brown. Abdomen and beneath the tail white. Bill black at its base and upon the nail, orange-yellow in the middle. Orbits blackish-grey. Iris dark brown. Feet orange-red.

In the *young* the head and neck is of a soiled yellowish-rufous. All the plumage of a more pale cinereous. There is commonly 3 small white spots at the base of the bill.



CANADA GOOSE.

(*Anser canadensis*, Vieill. Bonap. Synops. No. 318. Rich. North. Zool. ii. p. 468. Canada Goose, Penn. Arct. Zool. ii. No. 471. Wilson, viii. p. 53. pl. 67. fig. 4. The Canada Goose, Edwards pl. 151. Phil. Museum, No. 2704.)

Sp. Charact. — Dark ash; head, neck and tail black; cheeks and throat white; bill and feet black; tail consisting of 18 feathers.

The common Wild Goose of America is known familiarly in every part of the Union as a bird of passage to and from its breeding places in the interior and north of the continent. The arrival of this bird in the desolate fur countries of Hudson's Bay is anxiously looked for, and hailed with joy by the aborigines of the woody and swampy districts which they frequent, and who depend principally upon it for subsistence during the summer. They make their appearance at first in flocks of 20 or 30, which are readily decoyed

within gunshot by the hunters, who set up stales or stuffed birds, and imitate their call. Two or three are so frequently killed at a shot, in this way, that the usual price of a Wild Goose is a single charge of ammunition. This vernal flight of the Geese continues from about the middle of April to the same time in May; their appearance of course coinciding with the thawing of the swamps and marshes, though their usual food of grass and berries is accesible at most times when not buried up in the snow. These fruits are often, indeed, only mellowed by the frost, and when stripped of their wintry wreath are again ready for food as they were in the autumn before their disappearance beneath the snow. At such times, according to Dr. Richardson, the Wild Goose makes an abundant repast of the farinaceous berries of the Silvery Buckthorn *(Eleagnus argentea,)* as well as of other kinds which have escaped destruction. After feeding in a desultory manner for about three weeks, they retire from the shores of Hudson's Bay, their great rendezvous, and disperse in pairs through the country, between the 50th and 67th parallels to breed; but are seldom or never seen on the coasts of the Arctic Sea, yet Mr. Audubon found them breeding on the shores of Labrador. They lay 6 or 7 greenish-white eggs in a coarse nest usually made on the ground, but some pairs occasionally breed, on the banks of the Saskatchewan, in trees, making use, on these occasions, of the deserted eyries of the Ravens or Fishing Hawks. Its call or *honk*, is imitated by a prolonged nasal pronunciation of the syllable *wook* frequently repeated.

Solitude, and suitable food, seem principally to influence the Canada Goose in the selection of its breeding place, it is therefore not improbable but that many pairs pass the period of reproduction in the swampy and retired marshes of the great North-western lakes. At any rate, in the month

of March, (1810,) many wild Geese were nesting in the Shave-rush* bottoms of the Missouri, no farther up than Fire prairie, considerably below the junction of the river Platte; so that the breeding range of the Canada Goose, probably extends through not less than 30 degrees of latitude. In July, it appears, after the young birds are hatched, in the fur countries, the parents moult, and advantage being then taken of their helplessness, vast numbers are killed in the rivers and small lakes when thus disabled from flight. At such times, when chased by a canoe, and frequently obliged to dive, they soon become fatigued, and making for the shore in order to hide, are quickly overtaken, and fall an easy prey to their pursuers.

Attached to particular places of resort at the period of migration, the Geese, in autumn, instinctively advertised of the approaching winter, and of the famine which to them necessarily attends in its train, are again seen to assemble on the sea coast, courting the mildness of its temperature, and its open waters, which seem to defy the access of frost. They thus continue to glean the marshes along the shores, till the increasing severity of the weather urges them to a bolder and more determined flight from the threatening dangers of their situation. They now, in vast array, begin to leave the freezing shores of Hudson's Bay. Like the rest of their gabbling and sagacious tribe, at the call of their momentary elected leader, they ascend the skies, wheeling round, as if to take a final leave of their natal shores, and sensible to the breeze, arranged in long converging lines, (≻) they survey their azure route, and instinctively follow the cheering path of the mid-day sun, whose feeble gleams alone offer them the hope of arriving in some more genial clime. The leader, ambitious of his temporary station, utters the cheering and

* *Equisetum hiemale*, there commonly termed Rushes.

reiterated cry; his loud but simple clarion, answered by the yielding ranks, dispels the gloom of solitude through which they laboriously wander to uncertain and perhaps hostile lands. At length they come in sight of the habitations of men, suspicious of these appearances they urge their flight higher and more silently in the air; bewildered by fogs, however, they often descend so low, and *honk* so loud as to give sufficient notice of their approach to the ambitious gunner, who thus pours destruction among the alarmed and confused flock. They also hear, or think they hear, a wandering companion lost from their cherished ranks, they approach the object, and it is but a domestic traitor of their species, or the well imitated call of the wily fowler. Towards evening, desirous of relieving the toil and hunger of his adventurous band, the intelligent leader, reconnoitres from his lofty station the resting place of his charge; he espies the reedy river or silent lake, whose grassy margins offer the necessary supply and cover to their lodgment, his loud call now redoubles at the pleasing prospect, and they all alight, and silently repose in darkness upon the still water. Early in the morning they renew their wandering course, and according to the time and season, visit every part of the Union to the shores of the Mexican Gulf.

The autumnal flight of the Canada Geese to the coast of Hudson's Bay, and their residence there continues for three weeks or a month, previous to their departure for the south, which usually takes place in September. Early in October they arrive on the coasts of the Eastern and Middle States.

The residents of Hudson's Bay depend greatly on Geese for their supply of winter provision; and, according to Hutchins, in favorable years, they killed 3 or 4000, and barrelled them up for use. These are obtained chiefly by means of ambuscade and decoy; bough huts being made by the Indians in lines over the marshes they frequent to feed;

mimicking their call, they are brought within gun shot, and the deception is also enhanced by stales and setting up the dead birds on sticks, in living attitudes. Thus in a good day a single native will kill as many as 200. When the frosts begin, the Geese are readily preserved, with the feathers on, in a frozen state, and thus afford a durable supply of fresh provision. The feathers also constitute an article of commerce.

In the shallow bays and marshy islands, some continue the whole winter in New Jersey and the Southern States, through which they spread themselves to the very extremity of Florida. Their principal food is the sedge roots and other herbage, they also crop *Ulvas* and tender marine plants; and swallow quantities of gravel. They swim with ease and elegance, and when disabled in the wings, dive well, and become difficult to capture. When the shallow bays and ponds are frozen, they seek the mouths of inlets near the sea, in quest of their fare.

The Canada Goose is now completely domesticated, and is as familiar, breeds as freely, and is in every respect as valuable as the common Grey Goose. Even in Buffon's time, "many hundreds inhabited the great canal at Versailles, where they bred familiarly with the Swans," and he also adds, "there is at present a great number on the magnificent pools that decorate the charming gardens of Chantilly." The female, in a state of domesticity, still with instinctive caution, seeks out the most solitary place for her nest, not far from the water. They are also extremely watchful, and the gander often very resentful and clamorous against any stranger who happens to approach the place where his consort is breeding. He often engenders with the goose of the common species, and the hybrids are greatly esteemed for the superiority of their flavor.

The natural desire of periodical migration is strongly

exhibited by the Canada Goose while in a state of domestication, and though at all other times reconciled to accustomed and voluntary captivity, they are often heard instinctively to hail the passing flocks as they pursue their yielding way high in the air. Individuals have been known to leave the premises where they appeared entirely domestic, after the healing of the wounds which brought them into captivity, and they have thus successfully mounted into the air, and joined some passing party pursuing their way to the north.

A Mr. Platt of Long Island, having wounded a female Wild Goose, succeeded in taming it, and left it at large with his other common Geese. Its wound healed, and it soon became familiar and reconciled to its domestic condition, but in the following spring it joined a party of Canada Geese and disappeared until autumn; when, at length, out of a passing flock, Mr. P. observed three Geese to detach themselves from their companions, and, after wheeling round several times, alight in the barn yard, when to his astonishment he recognized, in one of the three his long lost fugitive, who had now returned, accompanied by her offspring, to share the hospitality of her former acquaintance. However incredible this story may appear, I have heard two or three relations of the same kind, as well authenticated as any other facts in natural history. One of these happened to a planter near Okrocock inlet, in North Carolina, in which, as in the present instance, the female, after being absent the summer, returned recruited with her brood in autumn; but the greedy farmer, less humane than Mr. Platt, having probably heard of the old adage, that "a bird in the hand was worth two in the bush," made sure of his prizes by killing them without delay. It appears from the relations of travellers, and particularly a Dr. Sanchez, that in the Cossack villages on the Don, (in the autumn of 1736) he

remarked, as he travelled along, a great number of Geese in the air,* which alighted and dispersed through the hamlets. On inquiry, he learnt that these birds came from the remote northern lakes; and that every year, on the breaking up of the ice, in March and April, six or seven pair of Geese leave each hut of the village, and return not till the beginning of winter, or the first fall of snow; that then these flocks arrive, increased by their progeny, and each little party, separating from the rest, seek out the houses where they lived the preceding winter.

The Canada Goose is usually about 3 to 3½ feet long; the wing 19½ inches; the bill above, 2 inches 2 lines; the tarsus 3 inches 7 lines. Head, two thirds of the neck, greater quills, rump, and tail, pitch black. Back and wings broccoli-brown, margined with wood brown. Base of the neck before, and under plumage yellowish-grey with paler edges. Flanks and base of the plumage generally brownish-grey. A few feathers about the eye, a large kidney-shaped patch on the throat, the sides of the rump, and upper and under tail coverts, pure white. Bill and feet black; the former shaped considerably like that of the Barnacle.

BARNACLE GOOSE.

(*Anser leucopsis*, Bechst. Bonap. Synops. No. 319. *Anas leucopsis*, Temm. Man. d'Orn. ii. p. 823. *Anas erythropus*, Lin. ed. 12. p. 197. sp. 11. *Bernicla* or *Clakis*, Lath. Syn. vi. p. 466. Penn. Arct. Zool. ii. No. 479. *La Bernache*, Buff. Pl. Enlum. 855. [old male.])

Sp. Charact. — Dark ash color; neck and tail black; face, and beneath from the breast, white; bill and feet black.

This species, so remarkable in its history, is said to be common to the Arctic regions of both continents, migrating to more temperate climates in autumn and winter. They

* The common domestic kind, *Anas anser*, Lin.

are, though rarely, seen about Hudson's Bay, but are mere stragglers along the coasts of the United States.

The origin of the Barnacle Goose, seen so common in some parts of Europe in winter, but hiding itself in the remotest wilds of the Arctic circle in the season of breeding, has given rise to the most ridiculous fables ever invented in natural history. It was long believed to be the produce of a kind of shells, hence called *conchæ anatiferæ** found on certain trees on the coast of Scotland and the Orkneys, or on the rotten timber of decayed ships. Some even described these supposed embryos as fruits in whose structure already appeared the lineaments of a fowl, and being forthwith dropped into the sea, turned directly into birds. Munster, Saxo Grammaticus, and Scaliger even, asserted this absurdity. Fulgosus affirmed that the trees which bore these wonderful fruits resembled willows, producing at the ends of their branches small swelled balls containing the embryo of a duck, suspended by the bill, which, when ripe, fell off into the sea and took to wing. Bishop Leslie, Torquemada, Odericus, the Bishop Olaus Magnus, and a learned cardinal, all attested to the truth of their monstrous generation. Hence the bird has been called the Tree Goose, and one of the Orkneys, the scene of the prodigy, has received the appellation of Pomona.

It is needless to quote any other authorities for such folly, though the learned Cambden and Hector Boece were among the number, who not only vouched for the truth of this prodigy, but added remarks of their own to the same effect. Even Cardan, Rondelet, Gyraldus and Maier gave credit to these fables, and some of them wrote treatises on the subject. Maier, in particular, opened a hundred of the Goose-bearing

* The *Lepas anatifera*, of Linnæus; the exserted tentaculi of which resemble the barbs of a feather, and hence probably, besides its curious fleshy pedicle, arose the idea of its relation to the organization of an embryo bird.

shells, and found in all of them the rudiments of the bird completely formed. Gerard thus gravely asserts his belief in this absurdity.

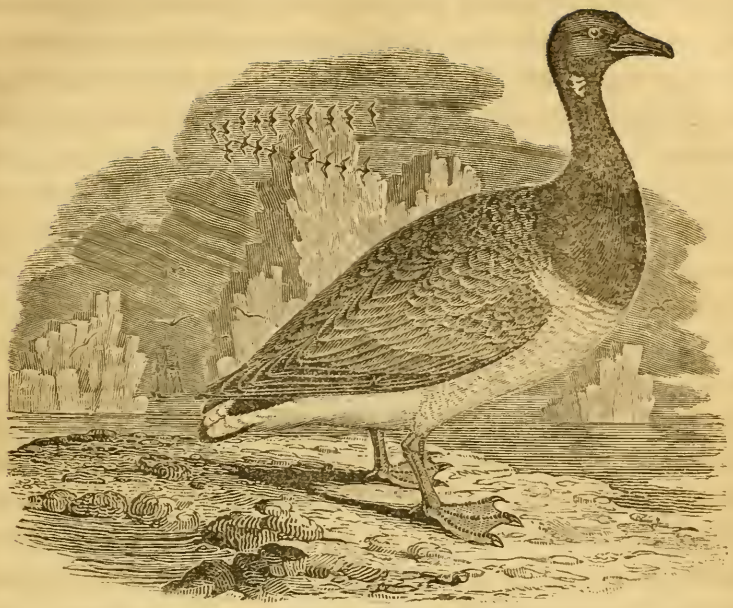
"But what our eyes have seen, and hands have touched, we shall declare. There is a small island in Lancashire called the Pile of Foulders, wherein are found broken pieces of old and bruised ships, some whereof have been cast thither by shipwracke, and also the trunks and bodies with the branches of old and rotten trees, cast up there likewise; whereon is found a certain spume or froth that in time breedeth into certain shels, in shape like those of the muskle, but sharper pointed, and of a whitish colour, wherein is contained a thing in form like a lace of silke finely woven as it were together, of a whitish colour; one end whereof is fastened unto the inside of the shell, even as the fish of oisters and muskles are; the other end is made fast unto the belly of a rude masse or lumpe, which in time commeth to the shape and form of a bird; when it is perfectly formed, the shell gapeth open, and the first thing that appeareth is the foresaid lace or string; next come the legs of the bird hanging out, and as it groweth greater it openeth the shell by degrees, till at length it has all come forth, and hangeth only by the bill: in short space after it cometh to full maturitie, and falleth into the sea, where it gathereth feathers, and groweth to a fowle bigger than a mallard and lesser than a goose, having black legs, and bill or beake, and feathers black and white, spotted in such manner as our Mag-pie, called in some places *pie-annet*, which the people of Lancashire call by no other name than Tree-Goose; which place aforesaid and all those places adjoining, do so much abound therewith, that one of the best is bought for three-pence. For the truth hereof, if and doubt, may it please them to repaire to me, and I shall satisfy them by the testimonie of good witnesses."

Æneas Sylvius, however, shrewdly relates, that chancing to be in Scotland, he inquired particularly for the place of the wonderful metamorphosis of the Barnacle, but was referred to the remote Hebrides and Orkneys, so that as he sought to advance, the miracle retired before him.

As the Barnacles breed in the hyperborean regions, no person for a long time had observed their birth, or seen their nests; and the Dutch, in a voyage which extended to the 80th degree, were the first who discovered their place of retirement for the purposes of incubation. Yet they probably breed in Norway, if it be true as Pontoppidan relates, that they are seen there the whole summer. They are also believed to breed in Lapland, the north of Russia, and Iceland. They are seen on the coasts of England, Ireland and France, in autumn, are particularly abundant at that season in Holland, and are caught in their passages, by nets stretched across the rivers.

Length of the Barnacle about 2 feet 1 or 2 inches. The front, sides of the head and throat pure white. A small stripe between the eye and bill, occiput, nape, neck, upper part of the breast, tail and quills, black. Feathers of the back, scapulars and wings of an ashy-grey from their origin, with a wide black band towards their ends, and all tipped with whitish-grey. Lower parts pure white, with the exception of the flanks which have a cinereous tint. Bill and feet black. Iris blackish-brown.

The *young of the year*, have between the eye and the bill a wide blackish band, formed of small spots. Some blackish points upon the front. The feathers of the back and wings terminated by a band of pale rufous, upon the feathers of the flanks many more cinereous tints and those deeper colored. Feet blackish-brown. The *females* are smaller than the *males*.



BRANT, OR BRENT GOOSE.

(*Anser bernicla*, BONAP. Synops. No. 320. RICHARD. North. Zool. ii. p. 469. *Anser torquatus*, VIEILL. *Anas bernicla*, LIN. LATH. Ind. sp. 32. TEMM. Man. d'Orn. ii. p. 824. WILSON, viii. p. 131. pl. 72. fig. 1. Brent Goose, PENN. Arct. Zool. ii. No. 478. *Le Cravant*, BUFF. Ois. ix. p. 87. Pl. Enlum. 342. Phil. Museum, No. 2704.)

SP. CHARACT. — Blackish-ash; head, neck, and breast black; a white patch on each side of the neck; beneath whitish; bill and feet black; tail of 16 feathers.

THE Brent is another of the hardy aquatic birds common to the hyperboreal regions of both continents. They breed in great numbers on the coasts and islands of Hudson's Bay and the Arctic Sea, and are rarely seen in the interior. In Europe they proceed to the most northern isles of Greenland, and to the dreary shores of Spitzbergen. In winter they are very abundant in Holland and in Ireland, as well

as in Shetland, where they remain until spring. In America, though they visit in the course of their migrations, most of the Northern and Middle States, they proceed still farther south, to spend the winter, being seen on the Mississippi nearly to New Orleans. They retire from their natal regions in the north in September; and early in October are seen to arrive in great numbers about Ipswich, Cape Ann, and Cape Cod in Massachusetts, continuing to come till the month of November, and generally appearing in greater numbers after the occurrence of an eastwardly storm. In hazy weather they also fly low and diverge into the bays and inlets. Many of these wandering flocks pass on to the south almost without any delay, usually in marshalled and angular lines, but sometimes in a confused gang, loudly gabbling as they proceed. Their stay here is commonly so short that it is necessary to ambuscade in huts on their route in order to obtain them. The course of their passage is remarkably uniform, and instead of winding round the bays, they cross over the narrow necks and peninsulas of land which lie in their southern route, as if in haste to arrive at some particular destination, or dissatisfied with the prospect of fare. They continue almost without interruption their inflexible course, until seduced by the mildness of the climate or the abundance of their food, they seem inclined to take up their permanent winter residence in the inlets of Long Island, and the sheltered bays of New Jersey; arriving, according to Wilson, in Egg Harbour, sometimes as early as the 20th of September, or almost without the intermission of any interval, but for necessary food and repose, from the time of their leaving the shores of Hudson's Bay. The first flights, still adventurous and roving, generally remain here only a few days, and then pass on still farther to the south. Flocks continue, however, to arrive from the north, and many remain in

the waters of New Jersey until the severe weather of December urges them to seek out milder regions. On recommencing their journey, they assemble in one great flight, making an extensive spiral sweep some miles in circuit, to reconnoitre their route, when rising at length high in the air, they steer to the ocean, and continue their course along the bays, or even out at sea for several leagues, till they arrive again at some new destination.

The Brent feeds usually on the bars at low water, and now and then also in the marshes; their common fare is the laver, *(Ulva lactuca*, and *U. latissima,)* and other tender marine plants; they now and then also eat small shell-fish. In the spring the old birds are generally lean and ill flavored, but in winter they are justly esteemed as a delicacy, and sell at a high price. They never dive, but wade about in quest of their food at the recess of the tide. At the time of high water they swim out at their ease in the bay, ranged in long lines, particularly during the continuance of calm weather.

The voice of the Brent is hoarse and honking, and when gabbling in company almost equals the yell of a pack of hounds. When pursued or nearly approached, in a state of confinement, they hiss like common Geese. They are often quarrelsome, amongst each other, and with the Ducks in their vicinity, driving the latter off their feeding ground. They never dive in quest of food, yet, when wing broken, the Brent will go a hundred yards or more at a stretch under the water; and it is then very difficult to obtain. About the middle of May they reappear on their way to the north; but at this time rarely stop long, unless driven in by stormy weather.

The navigator Barentz found multitudes sitting on their eggs, about the 21st of June, 1595, in the great bay called Wibe Janz Water; and, to his amazement, discovered them

to be the *Rotgansen*, which his countrymen, the Dutch, supposed to have been generated from some trees in Scotland, the fruit of which, when ripe, fell into the sea, and were converted into Goslings.*

The Brent is about 2 feet in length; and 3 feet 6 inches in alar extent; from the bill to the front 1 inch 3½ lines. Head, neck, shoulders, and swell of the breast, greyish-black. Quills, tertiaries, rump, and tail, greenish-black. Back, scapulars, and outer and inner wing coverts clove-brown, margined with yellowish-grey. A mottled spot on the side of the neck, tail coverts above and below, sides of the rump, and vent, white. Belly yellowish-grey. Flanks transversely barred with bluish-grey and white. Bill and feet black, the former small and shorter than the head. Tail coverts as long as the tail, which is much rounded.

HUTCHINS'S BARNACLE GOOSE.

(*Anser Hutchinsii*, Richard. North. Zool. ii. p. 470. *Anas bernicla*, β. Richard. Append. Parry's Second Voy. i. p. 368. Canada Goose, Hearne, Journey, p. 439.)

Sp. Charact. — With a black bill, less than an inch and a half in length; a white kidney-shaped patch on the throat; upper half of the neck black, the throat white.

On Captain Parry's second voyage several flocks of Geese were seen on Melville Peninsula, which were thought to be the *Anser leucopsis* or Barnacle, but which the Esquimaux said were the males of the Brent, that, during the breeding season, separate themselves from the females. A number of specimens were obtained, all of which proved to be males, and, in the Appendix above quoted, Dr. Richardson described them merely as a variety of the Brent, but from in-

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* The English fabled the same of the Barnacle, as we have related under that article.

formation afterwards obtained, he considered them as belonging to a different species, hitherto confounded with the *A. canadensis.* In Hudson's Bay they are well known by the Cree name of *Apistiskeesh*, and are generally thought by the residents to be merely a small kind of the Canada Goose, as they have the white kidney-shaped patch on the throat, which is deemed peculiar to that species. Their habits, however, are dissimilar; the Canada Geese frequenting the fresh-water lakes and rivers of the interior, and feeding chiefly on herbage; while the present species are always found on the sea coast, feeding on marine plants, and the *mollusca* which adhere to them, and from whence their flesh acquires a strong fishy taste. In form, size, and general colors of the plumage, the new species more nearly resembles the Brent, than the Canada Goose. It differs, however, from the former in having the white reniform patch on the throat and cheeks, in wanting the spotted white mark on the side of the neck, in the black color terminating 4 inches higher, instead of including the swell of the upper parts of the back and breast, and in the white of the vent being more extended. It is totally unlike *A. leucopsis* in plumage, and has a larger bill.

This species of Barnacle, named in honor of Mr. Hutchins, and from whom Pennant and Latham derived most of their information respecting the birds of Hudson's Bay, breeds in considerable numbers on the shores and islands of the Arctic sea, being seldom seen in the interior, and keep near the sea coast in their migrations. They feed on marine plants, and *mollusca*, as well as on grass and berries, in common with the *A. bernicla.*

Length of the species about 25 inches; the wing 14; the bill to the front 1 inch 8½ lines; tarsus 2 inches 6 lines. The head, neck, rump and tail, pitch black; back, and both surfaces of the wings clove-brown, the edges of the feathers yellowish-grey and worn.

A speck before the eye, the under eye-lid, a kidney-shaped patch on the throat, terminating acutely on each side of the hind head, a band passing over the upper tail coverts and forwards by the sides of the rump, breast, vent, and under tail coverts, all white. Abdomen yellowish-grey, edged with white. Flanks transversely barred with bluish-grey and white. Bill and feet black. Bill higher than wide at the front, shaped much like that of the Brent, but wider, the commissure straighter, and the teeth of the upper mandible not appearing externally. Wings; 1st and 3d quills nearly equal to the 2d, which is the longest; the spur at the angle of the wing nearly as much developed as in *A. bernicla*, but less than in *A. canadensis* and *A. leucopsis*. Tail of 14 feathers, rounded laterally; the middle pair shorter than the adjoining ones, and scarcely exceeding the outer.

SWANS. (Cygnus, *Ray.*)

In these large aquatic birds the BILL is at base higher than it is broad, gibbous, partly cylindric above, obtuse, and of the same breadth throughout; the teeth lamelliform; the upper mandible provided with a nail, and curved at the tip; the lower shorter and narrower. NOSTRILS in the middle of the bill, oval, pervious, covered by a membrane. The *tongue* thick and obtuse, fringed at its sides. Head small, lora naked; neck exceedingly long. FEET placed far back, very short and stout; tarsus shorter than the middle toe; webs broad and entire; hind toe equal to a joint of the middle one, simple, touching the ground merely at the extremity. *Wings* very long, when folded, the primaries scarcely extend beyond the secondaries: 1st and 4th quills equal; the 2d and 3d longest. Tail wedge-shaped, consisting of numerous feathers.

The female somewhat smaller, but similar to the male in plumage. The young, for two or three years differ from the adult. The moult is simple, annual, and protracted in its duration. The plumage is very close, thick, soft and light. The color uniform.

These are among the largest of aquatic birds, dwelling on fresh waters, rivers or lakes, in which they swim with facility, aiding their motion often through the yielding element and the air, by spreading out their wings like bending sails: indeed they surpass all other birds in grace and elegance upon the water. From their

structure, and the extreme buoyancy of their plumage, they are unable to dive, but often feed in the water, by means of their extended necks, which allow them in shallows to reach the bottom. Their food is chiefly vegetable, but they also devour reptiles, especially frogs, and other small aquatic animals, for which they search in the mud beneath the water, scarcely ever preying on fish, but rather protecting them by feeding on the enemies of the fry: and hence for their unparalleled beauty and elegance, are among the choicest decorations of artificial water pieces. They are strictly monogamous; building on the ground in the vicinity of water, or in secluded islets. The nest is composed of a pile of marsh plants, or any other loose materials in the vicinity, raised into a mound. The male is very vigilant in protecting his mate while sitting, he shares with her all the parental cares; and if attacked while swimming, without other convenient means of escape, he is capable of inflicting severe blows with his wings. They walk badly; and at rest place one foot on the back. Their flight, when elevated, is rapid and protracted, and they seldom alight but in the water.

The species are few, but distributed over the whole world. They appear to hold an intermediate character between the Geese and Ducks, but are more closely allied to the latter.

WILD, OR WHISTLING SWAN.

(*Cygnus ferus*, Raii, Synops. p. 136. *A.* 2. Montagu. Dict. Orn. [ed. alt.] p. 543. *C. musicus*, Bechst. Bonap. Synops. No. 321. *Anas Cygnus ferus*, Lin. Faun. Suec. No. 107. *Anas Cygnus*, Lin. Syst. i. p. 194. Lath. Ind. ii. p. 833. sp. 1. Temm. Man. d'Orn. ii. p. 828. Whistling or Wild Swan, Lath. Penn. Brit. Zool. p. 149. t. Q. Edwards, Glean. tab. 150. Whistling Swan, Penn. Arct. Zool. No. 469. *Le Cygne Sauvage*, Buff. Ois. ix. p. 3. *Der Singschwan*, Meyer, Tasschenb. ii. p. 498. Naum. Nachtr. tab. 13. fig. 27. *Cygno Salvatico*, Stor. Degli. Ucc. v. pl. 554. Phil. Museum, No. . . . .)

Sp. Charact. — White, top of the head somewhat yellowish; bill black, without a tubercle; the bare space round the eye yellow; tail of 20 feathers. — The *young* pale ash color, and with the naked space round the eye flesh colored; feet black.

The Whistling Swan retires into the Arctic regions to pass in more security the period of reproduction, during the short but brilliant summers which there prevail. In autumn

they migrate over both continents, and in winter are sometimes numerous in the Bay of Chesapeake. Flocks are seen and heard to pass also through various parts of the interior of America, and they are no where more abundant at that season than in Missouri, Arkansa, and Louisiana, to which countries, by the great valley of the Mississippi, they are seen to repair in lofty and numerous flights to the very close of winter, protracting their stay sometimes until driven to move by the severest frosts. In the winter of 1810, I saw two of these graceful birds in a state of domestication near St Louis, (Missouri) which were obtained with several others at the same time, in consequence of the extreme cold. The thermometer falling to 15° below zero, they were unable to bear the cutting severity of the weather, and fell disabled, accompanied by several Wild Ducks, into an adjoining field, where a few survived and became tame. In summer they are seen in vast numbers inhabiting the great lakes and marshes of the Tartarian and Siberian deserts: and resort in great flocks to winter around the Caspian and Euxine seas. At the same season they frequent the mild climate of Greece, Lydia, Anatolia, and Egypt. In Europe they proceed as far north as Iceland, where they seek out the remote lakes among the mountains. According to Dr. Richardson they also breed at Igloolik near the northern extremity of Melville Peninsula. A few pairs, according to Fleming, formerly bred in the Orkneys, but jealous of intrusion, have now probably deserted the shores of the *Ultima Thule*. They are also seen in winter along the sea coasts of Holland and France.

Whistling Swans arrive in Hudson's Bay about the end of May, in small flocks accompanied by the Geese, and propagate in great numbers along the shores, islands, and inland lakes. These, distinguished by their note and inferior size from the following, are called *Hoopers*, and

mostly frequent the sea coast. The Cygnets are esteemed a delicate dish, and the full grown young are also excellent food. The aborigines of the interior make much use of the down of the Swan as a matter of decoration, in which taste they have also been very successfully followed by civilized nations. Among the Icelanders they are an object of chase, in the moulting season, which takes place in August, after rearing their young; they are pursued by dogs, and on horseback, the animals being purposely trained to pass nimbly over bogs and marshes. The eggs, in the spring, as well as the flesh in autumn, are there much used as food, and the feathers form an article of trade. In Kamtschatka, where they likewise abound and breed, they are taken and used in the same manner. They nest on the ground in the rank herbage near the water; laying 5 to 7 olivaceous-green eggs, appearing as if covered with a whitish incrustation. Their food consists of aquatic plants and insects.

The Whistling Swan, though commonly tamed and domesticated in Russia, has not the grace and elegance of the Mute species, as instead of the beautiful curve of the neck, it swims with it erect. Its vocal organs are also remarkably assisted by the elaborate structure of the trachea, which instead of passing on direct to the lungs, as in the Mute Swan, forms two circumvolutions within the chest, like a real trumpet, before terminating in the respiratory organ, and it is thus enabled to utter a powerful and sonorous note. The common Tame Swan, on the contrary, is the most silent of birds; being unable to utter any louder noise than a hiss. This deficiency of voice is, however, amply made up by beauty of form, and insinuating grace. Its pure, spotless, and splendid attire; its stately attitude; the ease and elegance, with which, like a bark, it sits and moves majestically on the water, as if proud and conscious

of its beauty; aiding its pompous progress by gently raising its snow white wings to catch the sportive breeze, wherein it wantons with luxuriant ease, queen of its native element. In short, all conspires to shroud the Swan, however mute, with its long acknowledged and classic perfection. And as if aware of its high and ancient pretensions, it still, as in former ages, frequents the now neglected streams of the Meander and the Strymon; with an air of affected languor they are yet seen silently sailing by the groves of Paphos, though no longer cherished by its Beauteous Queen: — and still, as ever, altered as the scene may be to nature's rudest form,

> The Swan, with arched neck
> Between her white wings mantling proudly, rows
> Her state with oary feet; * * * * *

and knows no change but that of season.

The Hooper emits his notes only when flying, or calling on his mate or companions; the sound is something like *'whoogh, 'whoogh*, very loud and shrill, but by no means disagreeable, when heard high in the air, and modulated by the winds. The natives of Iceland indeed compare it, very flatteringly, to the notes of a violin. Allowance must be made, however, for this predilection, when it is remembered that they hear this cheerful clarion at the close of a long and gloomy winter, and when, in the return of the Swan, they listen to the harbinger of approaching summer; every note must be, therefore, melodious, which presages the speedy thaw, and the return of life and verdure to their gelid coast.

It is to this species alone that the ancients could attribute the power of melody; — the singular faculty of tuning its dying dirge from among the reedy marshes of its final retreat. In a low, plaintive, and stridulous voice, in the moment of death, it murmured forth its last prophetic sigh.

These doleful strains were heard at the dawn of day, or when the winds and waves were still; and like the syrinx of Pan, were in all probability nothing more than the murmurs and sighs of the wind through the marshes and forests graced and frequented by these elegant aquatic birds. The Mute Swan never visits the Padus, styled *Oloriferus*, from the numbers of the present species which frequent its waters. It is also almost equally certain that none but the present is ever seen on the Cayster, in Lydia, each of them streams celebrated by the poets, as the resort of Swans.

> Haud secus *Eridani* stagnis ripave *Caystri*
> Innatat albus Olor, pronoque immobile corpus
> Dat fluvio: et pedibus tacitis emigrat in undas.
>
> Silius Italicus. Lib. 14.

The Hooper is about 5 feet in length: the alar extent 7 feet 3 inches. Length of the bill above, 4 inches 4½ lines; the tarsus 4 inches; the middle toe and nail 6½ inches. Wholly white except the head and nape, which are very slightly tinted with yellowish. Bill black, covered at its base with a yellow cere, which surrounds also the region of the eyes. Iris brown. Feet black.

In the *young*, the whole plumage is of a pale grey; the fore part of the bill dull black, with the cere and naked space round the eyes livid flesh color. The feet reddish-grey. In the second moult it appears already in whitish plumage.

TRUMPETER SWAN.

(*Cygnus buccinator*, Richardson, North. Zool. ii. p. 464. *Keetchee wapeeshew*, Cree Indians. The Trumpeter, Lawson. Hist. Carol. p. 146.)

Sp. Charact. — White; head glossed above with chestnut; bill entirely black, without a tubercle; tail of 24 feathers; the feet black.

According to Richardson this is the most common Swan in the interior of the fur countries, which it frequents to

breed, as far south as the 61st parallel, but principally within the Arctic circle. In its migrations it is generally seen to precede the Geese by a few days. It is to the Trumpeter that the bulk of the Swan-skins imported by the Hudson's Bay Company belong. Lawson remarks that they arrive in great flocks in Carolina in autumn, and frequent the rivers and fresh waters, retiring thence to breed in the north as early as February. This species, remarkable for its loud clarion, descends the valley of the Mississippi in great flights at the approach of winter. Hearne, who also observed this Trumpeter, remarks "I have heard them, in serene evenings, after sunset, make a noise not very unlike that of a French Horn, but entirely divested of every note that constituted melody, and have often been sorry that it did not forebode their death." The trachea is well supplied with the means of producing this hollow clang, a fold of it entering a protuberance on the dorsal or interior aspect of the sternum at its upper part, which is wanting both in the *Cygnus ferus* (the preceding species) and the *C. Bewickii:* in other respects the windpipe is distributed through the sternum nearly as in the latter of these species.

The length of the Trumpeter Swan is about 70 inches; the wing 26; the bill above, 4 inches 11 lines; the tarsus 4½ inches; the middle toe and its nail 6 inches 9 lines. — The color white, the forehead alone tinged with reddish-orange. Bill, cere, and legs entirely black. The bill nearly resembling that of *C. ferus* in form, though longer and rather more depressed. Wings: third quill longest. Some specimens, it appears, have the crown and cheeks bright chestnut.

BEWICK'S SWAN.

(*Cygnus Bewickii*, YARREL. Lin. Transact. xvi p. 445. (Jan. 1830.) SELBY, Illustr. of Ornith. vi. pl. 95. RICHARD. and SWAINS. North. Zool. ii. p. 465.)

SP. CHARACT. — White; bill yellow at the base posterior to the nostrils; tail of 18 feathers; the feet black.

THIS Swan breeds on the small lakes of the coasts and islands of the Arctic Sea, and is seen in the interior of the fur countries while on its passage only; its principal route is along the coast of Hudson's Bay. It arrives with the latest of the migratory birds in the spring, while the Trumpeters are, with the exception of the Eagles, the earliest. They winter, according to Lewis and Clarke, near the mouth of the Columbia, where they were seen in very great numbers. Captain Lyon describes its nest as built of moss-peat, nearly six feet long, four and three quarters wide, and two feet high externally; the cavity a foot and a half in diameter. The eggs were brownish-white, slightly clouded with a darker tint.

The length of this species is about 55 inches; of the bill above, 3½ inches; tarsus 3 inches 9 lines; the middle toe and nail 5 inches 3 lines: extent of wing 6 feet 1 inch. Pure white, except the crown, nape, and upper parts of the neck, which are deeply tinged with reddish-orange, and the belly which is slightly glossed with the same. Bill black; cere orange (that color entirely behind the nostrils.) Irides orange. Feet black. — *Old* birds are entirely white, and *young* ones grey. The 2d and 3d quills equal and longest. Tail wedge-formed, of 18 feathers.

DUCKS. (Anas.* *Lin.*)

With the bill broader than high at the base, widening more or less at the extremity, somewhat flattened, obtuse and much depressed towards the point; marginal teeth lamelliform, weak: upper mandible convex, curved, and furnished with a slender nail at the end; the lower narrower, flat, and entirely covered by the margins of the upper. Nostrils basal, approaching together, oval, open, pervious, and partly closed by a membrane. Tongue stout, and obtuse, fringed at the sides. The *neck* about the length of the body. Feet nearly central, but rather small and weak; tarsus about equal with the middle toe, not very much compressed; webs entire; the hind toe equal in length with a joint of the middle one, simple, touching the ground at tip. Wings moderate, acute; the primaries long; the 1st and 2d, or 2d only, longest. The *tail* of from 14 to 16 feathers.

The plumage of the *female* different from the adult male; the young more or less resemble the female. The moult takes place twice in the year, in the female only partially, in the male completely, assuming towards the end of summer and after the close of the breeding season the humble dress of the female. The plumage thicker than in the Geese, but less so than in the Swans and *Fuligulæ*. There is a conspicuous bright colored patch, usually called the speculum, on the wing in most of the species. The colors of the female are generally dull and greyish. The windpipe or trachea swelling out at its bifurcation into cartilaginous cavities.

These well known birds are eminently aquatic, and migratory, approaching the sea coast in flocks during autumn and winter, but frequent fresh water ponds, lakes and rivers, particularly those with grassy and sedgy borders, preferring shallow places in which they can fathom the bottom with the bill without the aid of deeply diving, to which they only have recourse in the breeding season, or when compelled by necessity to avoid their enemies; they therefore usually avoid deep waters. While swimming, which they perform with singular address and facility, they stretch forward the body and elevate the tail. They walk comparatively well, with the feet close together, but waddle, and do not poise the body with the same ease

* From the Greek name for the Duck *νησσα*, from *νεω* to *swim*.

as the Geese. Their flight is comparatively light, swift, high and whistling. They are somewhat nocturnal, feeding and travelling often by night or in slender twilight. Their food is principally vegetable, plants, and seeds, to which they also add aquatic animals, and sometimes soft bodied insects and mollusca. They are disposed to polygamy: breeding in the grass often near water, and some in the hollows of decayed trees. The nest is often lined with down, and the eggs are numerous. On the female alone devolves the whole charge of incubation and the rearing of the young: she covers her eggs as often as she has necessity to leave them, with the down or lining of her nest, and is very secret in her movements and her retreat.

The species are numerous, and spread over the whole globe to both extremities, but they are most abundant in the temperate regions, and generally retire in our hemisphere far north to breed.

Subgenus. — Spathulea, *Fleming*. (Spatula, *Boie*. Rhynchaspis, *Leach. Bonap.*)

The bill long, without a fleshy protuberance; the upper mandible semicylindric, broad and somewhat orbicular at the extremity, the nail small, and much incurved: lamelliform teeth, very long and slender. The head wholly feathered. — The female differing greatly from the male.

These feed chiefly on small aquatic animals, minute shell-fish and insects, which they sometimes obtain by sifting the mud through their long and pectinate teeth; they also at times collect tender marine and fluviatile vegetables. The bill is very sensitive, exhibiting when dry a complicated nervous surface.

SHOVELER.

(*Anas clypeata*, Lin. Lath. sp. 60. Wilson, viii. p. 65. pl. 67. fig. 7. Bonap. Synops. No. 322. Richard and Swains. North. Zool. ii. p. 439. Temm. Man. d'Orn. ii. p. 842. *Anas rubens*, Gmel. sp. 81. [var. young male.] Shoveler Duck, Penn. Arct. Zool. ii. No. 485. *Le Souchet*, Buff. Pl. Enlum. 971, and 972. [male and female.] Phil. Museum, No. 2734.)

Sp. Charact. — With a green spot or mirror on the wings, margined above with white, and below with black; the wing coverts light blue. — *Male* brown: head and neck green; the belly rufous chestnut. *Female* and *young* wholly brownish, varied with whitish, rufous, and blackish.

The Shoveler, remarkable by the broadness of its bill, is an inhabitant of the northern parts of both continents; according to Richardson, frequenting chiefly the clear lakes of the hyperboreal districts, selecting for their breeding place the Barren Grounds, where they remain to pass the summer, appearing in numbers in the more southern and woody country, only in the spring and autumn when migrating. Early in October they visit the small fresh water lakes and marshes near the sea in Massachusetts, and in the course of the winter continue south to the extremity of the Union, penetrating into Mexico and along the coast of the Gulf to Vera Cruz, and perhaps still further in quest of subsistence, and shelter from the cold. They also inhabit Norway, Sweden, and Russia, and are found even in Kamtschatka in the summer. They are very abundant in the marshes, lakes, and rivers of Holland, and as birds of passage visit France, Germany and England. Soon after March, according to Baillon, they disperse through the fens in France to breed, and select the same places with the Summer Teal, choosing with them large tufts of rushes, making a nest of withered grass in the most boggy and difficult places of

access, near waters. The eggs are 12 to 14, of a very pale greenish-yellow; the female sits 24 or 25 days. The young, in consequence of the great disproportion of the bill, at that period, have a most uncouth and awkward appearance, seeming to be oppressed by its weight, and perpetually inclined to rest it upon the breast. They run about and swim, however, as soon as hatched, and are carefully attended by the parent, who incessantly guards them from the surprise of ravenous birds. On these occasions, when the danger becomes unavoidable, the young are seen to squat silently among the grass, while the old birds run off and dive. Their cry has been compared to that of a rattle turned by small jerks in the hand.

The Shoveler is considered one of the most tender and delicate flavored Ducks, growing very fat in winter. Their usual food is said to be small fish and insects; rarely vegetables and seeds. In a pair of the young which I examined, that were killed in Fresh Pond in this vicinity, the stomach contained many fragments of a very delicate divaricated small green *Fucus*, minute *Scirpi* plucked up by the roots, also fragments of some *Chara*, with minute *Natica* and *Anomia* shells quite comminuted, and a portion of gravel. We see therefore, that the remarkable structure of the bill in this species, is no way generally indicative of any peculiar habit of feeding. The labyrinth in the trachea of the male is small, and its voice probably proportionately feeble.

The Shoveler is about 21½ inches in length; the folded wings 9½ inches; length of the bill above, 2 inches 4½ lines; tarsus 1 inch 5 lines. — *Male*, with the head, adjoining half of the neck, medial stripe to the interscapulars, the whole back, interior scapulars, and primaries, umber-brown. Sides of the head, the neck, and crest, glossed with duck-green: the rump and tail coverts, above and below, with blackish-green. Lower half of the neck, the breast, shoulders, shorter scapulars, ends of the greater wing coverts, and sides of the rump, white; longer scapulars, striped with pale blue,

white and blackish-brown. Lesser coverts pale blue. Speculum (or wing spot) brilliant grass-green, broadly bordered above and narrowly edged below with white; bounded interiorly with greenish-black. Belly and flanks deep orange-brown, the latter waved posteriorly with black. Bill black. Legs orange.

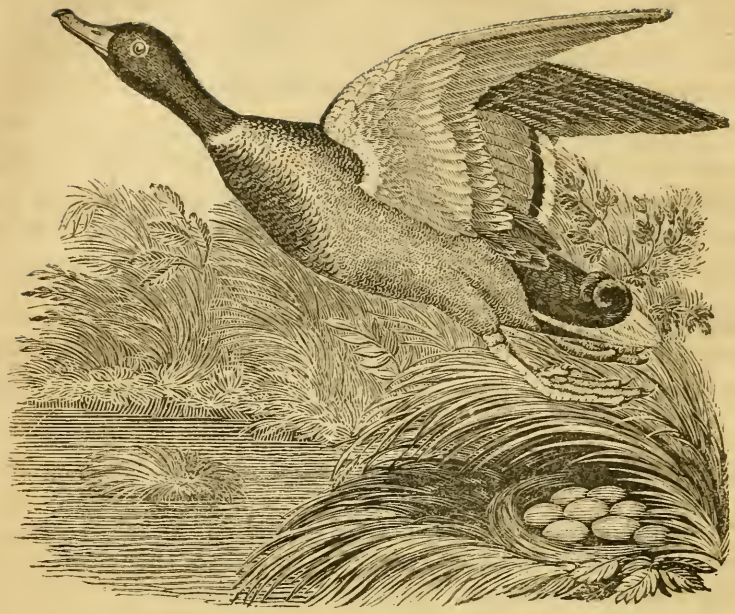
The *female* is liver-brown above, with broad borders of pale wood-brown; beneath pale wood-brown with obscure liver-brown marks. In this sex is also wanting the dark-brown and green colors of the head, rump, and tail coverts, the white of the neck, breast, sides of the rump, and scapulars, and also the orange-brown of the belly. The lesser wing coverts are slightly glossed with pale blue, and the speculum is less vivid than in the male.

Subgenus. — Boschas. *Swainson.* Anas. *Bonap.*

The *bill* of moderate dimensions, nearly of the same breadth throughout, and without any fleshy protuberance; the teeth small, and comparatively coarse. The head wholly feathered.

The sexes differ much in their plumage.

The Ducks, properly so called, feed on tender aquatic plants, chiefly seeds and grain; also on spawn, fry, mollusca and other aquatic animals.



COMMON DUCK, or MALLARD.

(*Anas domestica*, Richard. and Swains. North. Zool. ii. p. 442. *Anas boschas*, Linn. Lath. Ind. sp. 49. Temm. Man. d'Orn. ii. p. 835. Wilson, viii. p. 112. pl. 70. fig. 7. [male.] Bonap. Synops. No. 323. The Mallard, Penn. Arct. Zool ii. No. 494. *Le Canard Sauvage*, Buff. Ois. ix. p. 115. tab. 7 and 8. Pl. Enlum. 776. and 777. *Boschas major*, Ray. Syn. *A.* 1, 150, 1. Phil. Museum, No. 2864.)

Sp. Charact. — Speculum purple with green reflections, bounded with black and white; rump blackish; tail of 16 feathers. — *Male*, with the head and neck green; a white collar on the neck; the middle tail coverts recurved. *Female* and *young* wholly brownish, varied with yellowish and blackish.

The Mallard, or original of our domestic Duck, like so many other species, is common to most parts of the northern hemisphere. As a bird of passage, in spring and autumn, it is seen in every part of the United States, and

indeed inhabits more or less the whole continent, from the gulf of Mexico to the 68th parallel in the fur countries of the Canadian wilderness. In Europe it is met with every where, up to the dreary climates of Greenland, where many even pass the greater part of the winter. Avoiding the sea coast, it is but rarely that the Mallard visits this vicinity, retiring south by an interior route. They breed in the inland woody districts of the fur countries, and more or less through all the intermediate space as far south as Pennsylvania. In England also, as well as in Sweden, Denmark, Germany, and all parts of the vast dominions of Russia, no less than Arctic Europe, and the Aleutian Islands in the north Pacific, the Wild Duck is known to breed. They nest commonly on the borders of rivers and lakes, sometimes at a considerable distance from water, amongst reeds, grass, or in fields and copses, according to the convenience of the locality, and occasionally even upon trees impending over waters. For its nest it scrapes together a small quantity of such dry weeds as happen to be contiguous, and lays from 10 to 18 eggs of a bluish-white. At the time of incubation, the female plucks the down from her breast to line the nest, and frequently covers the eggs when she leaves them.

Although it is most natural for all those birds, whose young run as soon as they are hatched, to deposit their eggs on the ground, in the Duck we have some curious exceptions. It is asserted by a person of veracity in England, that a half domesticated Duck was known to nest in a tower, where she hatched her young, and brought them down in safety to a piece of water at a considerable distance. Mr. Tunstall mentions one, at Etchingham, in Sussex, which was found sitting upon 9 eggs, on an oak 25 feet from the ground, and in another instance one was known to take possession of the nest of a Hawk in a large oak.

Though believed to be monogamous, the fact is doubtful, as, during the season of incubation, the Mallards are seen to congregate apart from the Ducks as among other polygamous birds. Indeed, so little is the male interested in the fate of the brood he has procreated, that the female, as incubation advances, is assiduous to hide herself from the company of her indifferent mate: she steals to her nest with caution, and sits on her eggs with the greatest pertinacity and instinctive affection. When the young are hatched, in situations remote from water, the parent is seen to transport them to it by carrying them gently in her bill. In the evening, the mother retires into the reeds, and broods her young under her wings for the night. Almost from the moment of hatching the ducklings swim and dive with the greatest address, employing themselves often in catching gnats and other insects on which they at first principally feed, but though so alert and well provided for their aquatic life, their aërial progress and the growth of their wings is very tardy, these continuing short and misshapen for near six weeks, and it can scarcely attempt to fly in less than three months. This protracted infancy necessarily indicates the necessity of pairing early in the season, and in the milder parts of Europe, the males, jealous and quarrelsome with each other, begin towards the close of February already to address their mates.

Wild Ducks at all times show more activity in the night than in the day. They feed, migrate, arrive and depart, chiefly in the evening, and in the night. In the dusk, the rustling of their wings often alone marks their progress. Their flight is generally in the form of a wedge or two converging lines (⩾); and being very cautious, they never alight until they have wheeled several times round the spot, as if to survey any lurking danger that may possibly threaten. They often also swim out at a distance from the shore,

and one or more of the party, experienced as leaders, usually watch for the common safety, and give instant alarm, whenever there is occasion. During the day, they thus roam at large on the lakes, secluded pools or broad rivers remote from the shores, resting or sleeping till the approach of twilight. In a domestic state, though their habits are so much changed, they are very noisy and watchful in the evening and at dawn, responding their *quack* and cackle to the early crowing of the Cock. It is at this time that the fowler, secreted in his hut or in any other way, lays in wait for their approach to the lure of his female decoys, and pours among them his destructive fire.

It would far exceed our limits to detail the various arts employed in order to obtain this wily and highly esteemed game. Decoys of wood, carefully painted to imitate these and other species, are sometimes very successful lures in the morning twilight. The imitation of floating objects, as a boat painted white amongst moving ice, has also sometimes been attended with complete success. In India and China, the natives wading into the water, and concealing the head in a calabash, steal upon the Ducks imperceptibly, and drawing them down severally by the legs, fasten them to a girdle, till they become loaded with their unsuspicious game.

In the fens of Lincolnshire, extensive and ingenious decoys are made for this purpose, in the form of a winding canal passing out of the lake where the Ducks resort, and which is screened on one side by a high reed fence. At the bottom of this artificial and converging sluice inarched with willows, a tunnel net is laid, into which the birds are driven, by a dog trained for the purpose, and sent out to the Ducks at the entrance of the inlet; they are thus, with suitable precaution, at length urged into the net, sometimes in such quantities, that five or six dozen have been

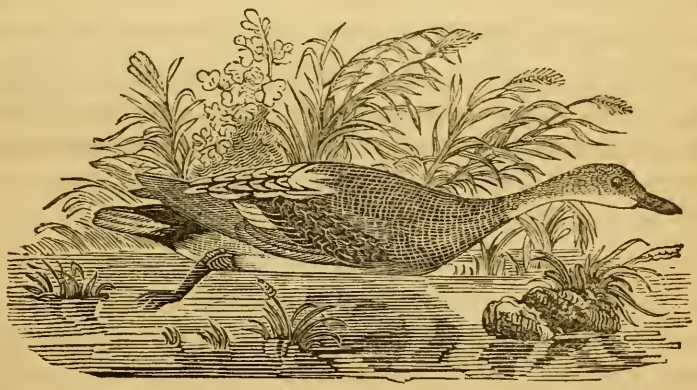
taken out at one drift; and Pennant relates a season in which 31,200 Ducks, including Teals and Widgeons, were sold in London only, from ten of these decoys near Wainfleet, in Lincolnshire. Formerly, the Ducks while in moult, and unable to fly, were driven into nets, in such numbers, that as many as 4000 have been taken at one driving in Deeping Fen; and Latham quotes an instance of 2,646 being taken in two days, near Spalding, in the same county. But this manner of catching, or rather extirpating game, while in the moult, is now justly prohibited. The season of catching Ducks in England, as regulated by law, is from the end of October to the beginning of February.

The food of the Wild Duck is small fish, fry, snails, aquatic insects and plants, as well as seeds and most sorts of grain. In the severity of winter, if the standing waters become frozen, they remove to running rivers, and resort to the edge of woods in quest of acorns or other suitable food; but if the frost continues for eight or ten days they disappear, and do not return till the early thaws of the spring.

The length of the Mallard or *male* is about 2 feet; the wings 11 inches 3 lines; the bill above, 2 inches 2 lines; the tarsus 1 inch 9 lines. Head, and adjoining half of the neck deep emerald-green, below which there is a white collar; the remainder of the neck and breast are dark chestnut. Anterior part of the back, wing coverts, primaries, and tail, hair-brown of different shades: the tail feathers bordered with white, and the anterior part of the back finely waved with grey. Rump and upper tail coverts blackish-green: under tail coverts greenish-black. Shoulders, scapulars, sides of the rump, flanks, and abdomen, grey, finely undulated with clove-brown. Some of the exterior scapulars, chestnut, with darker lines. Speculum imperial purple, reflecting green, bounded above and below with velvet-black and white, and interiorly with reddish-brown. Primaries cinereous. Sides of the rump partly, and interior of the wings entirely, white. Wings an inch and a half shorter than the tail, which consists of 16 feathers; the two central pairs of upper tail coverts curl upwards. Bill wax-yellow, rather longer than the head. Irids reddish-brown. Legs orange.

The *female* resembles the male only in the wings. The upper plumage and the tail are mostly liver-brown, with pale brown margins and horse-shoe shaped bars. — The upper parts of the head are darker; and the sides of the head and neck more finely marked. The under plumage yellowish-grey, obscurely spotted with brown; the breast tinged with chestnut.

Note. I have received two specimens, said to be wild, which measure about 30 inches in length, and agree in most particulars with the common species; but in the adult the primaries are *white*, the tail feathers wholly grey; and the whole neck and breast as well as abdomen are of the same uniform grey and finely mottled color, with only a slight general tint of pale rufous. In the other male moulting into adult plumage, the primaries are dark-grey; and the grey of the breast is more distinctly waved with pale rufous. Mr. Cooper of New York, has also met with similar large specimens, and considers them as hybrids. What they are, or how originated, I am unable to determine, and thus merely call attention to the subject.



GADWALL, or GREY.

(*Anas strepera*, Lin. Lath. Ind. sp. 69. Wilson, viii. p. 120. pl. 71. fig. 1. Temm. Man. d'Orn. ii. p. 838. Richard. North. Zool. ii. p. 440. Bonap. Synops. No. 324. Gadwall, Penn. Arct. Zool. ii. *L. Le Chipeau*, Buff. Pl. Enlum. 958. [male.] Montagu, Orn. Dict. [ed. alt. cum ic.] Phil. Museum, No. 2750.)

Sp. Charact. — Speculum white, bordered with black and chestnut, feet orange, their webs blackish; tail of 16 feathers. — *Male* blackish, waved with white; rump black. *Female* duller, rump of the same color with the rest of the plumage.

The Gadwall inhabits the northern regions of both continents, but does not in America, according to Richardson, proceed farther than the 68th parallel, and in Europe it seems not to advance higher than Sweden. In the Russian empire it extends over most of the latitudes of the European and Siberian part, except the east of the latter and Kamtschatka. In their migrations they pass chiefly into the warmer parts of Europe, being very rare in England, but common on the coasts of France, Italy and Sardinia. In the United States it appears to be generally rare. A few of the young birds are seen in this vicinity; and Wilson met with it in the interior on Seneca Lake, in October, and in February, at Louisville on the Ohio; and near the Big Bone Lick, in Kentucky.

The Gadwall breeds in the woody districts of the remote northern fur countries of Canada. In the north of Europe they inhabit the vast rushy marshes; and in Holland, where they are common, they associate in the same places with the Wild Duck or Mallard. They nest in meadows and among rushes, laying 8 or 9 greenish-grey eggs. They are very much esteemed as game, are very alert at diving and swimming, and plunging at the flash of the gun are obtained with difficulty. It is very timorous, lurking in the marshes by day, feeding only in the twilight of the morning and evening, and often till some time after night fall; they are then heard flying in company with the Whistlers, and like these obey the call of the decoy Ducks. Their cry much resembles that of the common Wild Duck; nor is more raucous or louder, though Gesner seems to have meant to characterize its note by applying the epithet *strepera*,

which has been adopted by succeeding ornithologists. Their food, consists of small fish, shelly mollusca, insects and aquatic plants.

The trachea of the male is provided with a large labyrinth, but in most respects agrees with that of the Mallard.

The Gadwall is about 23 inches in length; the wing 10½ inches; the bill above, is about 1 inch 7 lines; the tarsus 1 inch 6 lines. — In the *male*, the top of the head and nape are liver-brown edged with grey. Head beneath and neck grey with small brown specks. Base of the neck above and below, anterior part of the back, exterior scapulars, flanks, and sides of the vent, clove-brown, marked with concentric horse-shoe shaped white lines. Interior scapulars, lesser coverts, primaries, tertiaries, and tail, hair-brown; intermediate coverts, chestnut-brown; greater coverts, rump, and upper and under tail coverts, bluish-black. Speculum white, its anterior border black. Lower part of the breast, middle of the belly, and under surface of the wings white. First and second quills equal and longest. Legs orange. Bill brownish-black, pale beneath, as long as the head, of equal breadth and height at the rictus; depressed but not widening anteriorly. Laminæ of the mandibles rather stronger and much shorter than those of the Shoveler, but finer and more numerous than those of any other northern species. The upper ones project a tenth of an inch beyond the margin. Wings nearly equal to the tail.

In the *female* the feathers of the back are blackish-brown, edged with pale rufous; the breast reddish-brown, spotted with black; there are no zig-zag lines on the flanks; and the rump and inferior tail coverts are grey. — In a *young male*, now before me, the general plumage is that of the female, dusky-brown with dull yellowish-brown edgings to the feathers, but none of the delicate curving lines of the male in those parts. The summit of the head is very dark-brown. The speculum is white mixed with grey, anteriorly bounded with blackish and grey: greater coverts over the speculum only, black with green reflections, no chestnut on any of the coverts, and the scapulars dusky. Rump the general color of the back: under tail coverts paler. Below spotted with dusky, the spots large and roundish; wing linings and long axilliaries pure

white. Bill dusky above, below and at the sides orange, tinged slightly with brown, the laminar teeth exserted. Legs and feet pale orange, the webs dusky.

PINTAIL, or WINTER DUCK.

(*Anas acuta*, Linn. Lath. Ind. sp. 81. Wilson, viii. p. 72. pl. 68. fig. 3. Bonap. Synops. No. 325. Temm. Man. d'Orn. ii. p. 838. *A. caudacuta*, (Ray. Leach.) Richard. North. Zool. ii. p. 441. Pintail Duck, Penn. Arct. Zool. No. 500. *Le Canard à longue queue*, Buff. Pl. Enlum. 959. Phil. Museum, No. 2806.)

Sp. Charact. — Speculum green with purple reflections, bordered by rufous and white; tail very long, cuneiform, acute, of 16 feathers; bill long and linear, nearly black. — *Male* ash color, waved, lined, and spotted with black, with a white stripe on each side of the neck: two middle tail feathers very long and tapering; vent black. *Female* dusky, spotted with redish-white: speculum and vent uniform in color with the rest of the plumage, and the middle tail feathers not elongated.

This elegant species is again an inhabitant of the northern parts of both continents, leaving its remote natal regions, as the winter advances, when it is seen pretty frequent in the markets of the United States, and is a game much esteemed for the excellence of its flavor. According to Richardson, they frequent chiefly the clear lakes, and breed in the Barren Grounds, appearing in the more southern and wooded districts when about to migrate, at which period they proceed even beyond the limits of the United States, being noticed by Hernandez in Mexico. In Europe they are said to retire to the marshes of the White Sea to breed. They are seen in Sweden in the spring and autumn for a few days as birds of passage; in winter visit the north of England and Scotland, and are seen in great flocks in the Orkneys. They are also common in France, Holland and

Germany, and proceed south as far as Italy. In the Russian empire they penetrate to Kamtschatka, Tartary, and even as far as China. In Missouri and some of the other Western States they are abundant early in March, and frequent the small pools and ponds in the prairies; at the same time they are likewise seen on their way north on the shores of the Delaware.

The Pintail is shy and cautious, feeding on the mud flats, and shallow fresh-water marshes, but rarely takes to the sea coast. It seldom dives, is very noisy and chattering, uttering a quack like the Common Duck, and plunges and hides with great dexterity when wounded. It is also troublesomely vigilant in giving alarm on the approach of the gunner.

The food and nest of this species is very similar with that of the preceding. I have found the stomach in one instance nearly filled with the seeds of the *Zostera*. It lays 8 or 9 eggs of a greenish-blue color. A female Pintail bred in confinement, when paired with a Widgeon, in Lord Stanley's menagerie at Knowsley, sat so closely upon her eggs towards the close of the period of incubation, as to allow herself to be taken off the nest by hand without forsaking her hatching, and a brood of these hybrids were successfully reared.

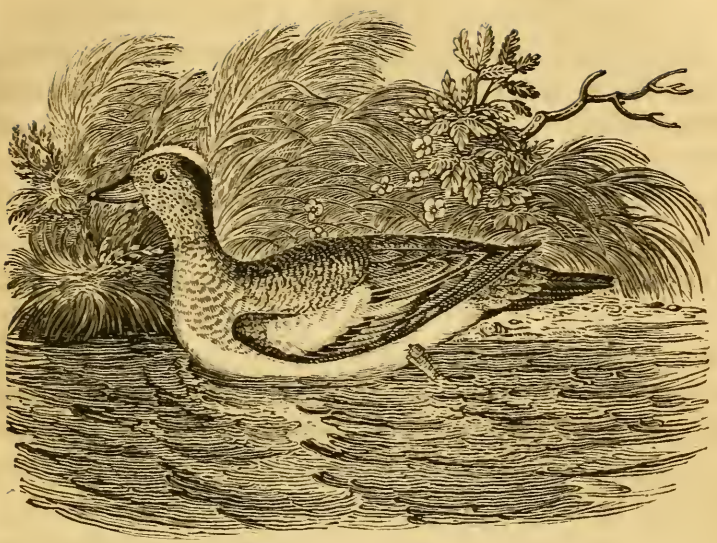
The Pintail is about 26 inches long; the wing 10 inches 9 lines; length of the bill above, 2 inches; the tarsus 1 inch 7 lines. In the *male*, the head and adjoining part of the neck is anteriorly umber-brown, with paler edges. The neck above blackish-brown. The whole of the back, shorter scapulars, sides of the breast, and flanks marked with fine waved transverse lines of brownish-white and black, most regular and broadest on the long feathers lying over the thighs. Long scapulars and tertiaries black, the borders of the former and outer webs of the latter, white. Wing coverts and primaries hair-brown; the primary shafts white, and the interior coverts mottled with the same. Speculum dark green, with purple reflections bounded above by a ferruginous bar, and interiorly and below

by white. Tail, and most of its upper coverts, dark brown with pale borders. Two long central upper coverts, vent, and under coverts, black; the latter bordered with white. A lateral streak on the upper part of the neck, the sides and front of its lower part, the breast, and belly, white. The posterior part of the abdomen minutely marked with grey. Feet blackish-grey. The bill as long as the head, black, the sides of the upper mandible bluish-grey; it is considerably higher than wide at the base; the upper mandible of equal breadth to the point. The middle pair of tail coverts have long slender points projecting 2½ inches beyond the tail.

The tracheal dilatation, a small osseous sac, the size of a hazel nut.

The *female* is smaller than the male, the upper plumage brownish-black, with a spot on each side of the shaft, and borders of reddish-white. The middle coverts are not prolonged beyond the tail; the barred feathers of the flanks are wanting, and the mirror (or wing spot) is destitute of the green gloss. Its total length is about 21 inches; the extent of the wings 29.

In *young* birds the general plumage is similar with that of the female, but still plainer and paler. In a young *male* the head is pale ferruginous with brown streaks; the scapulars are sparingly spotted and edged with white and yellowish-white. The speculum is wholly wanting; but the secondaries are deep dusky faintly clouded with pale brown and broadly edged with white. The bill is brownish-black.



AMERICAN WIDGEON.

(*Anas americana*, Gmel. Lath. iii. 520. Wilson, viii. p. 86. pl. 69. fig 4. Bonap. Syn. No, 326. Richard. North. Zool. ii. p. 445. American Widgeon, Penn. Arct. Zool. ii. No. 502. *Mareca americana*, Stephens, Gen. Zool. xii. p. 135. *Le Canard Jensen de la Louisiane*, Buff. Pl. Enlum 955. Phil. Museum. No. 2798.)

Sp. Charact. — Speculum green, surrounded with black; wing coverts white; tail wedge-shaped, of 14 feathers. — *Male*, brownish-red, waved with blackish; with a white band from the front to the nape, bounded posteriorly by a broad patch of green; the breast nearly chestnut: throat whitish. *Female* dark brown and mottled; no green on the head, which is paler.

This species, so nearly allied to the European Widgeon, has not been found in the old continent, yet it retires north to breed, inhabiting in summer the woody districts of the remote fur countries, near the Saskatchewan and the coasts of Hudson's Bay, as far as the 68th degree of northern latitude. In autumn and winter they are seen common in

nearly all parts of the Union, many wintering in North and South Carolina in the open rivers and bays, sometimes considerably inland. Indeed, I have never seen them any where so numerous as in the Neuse river, round Newbern, 40 miles from the ocean, where in company with the Canvas-Back and Buffel-Head, they are seen constantly in February and March. They are also numerous in Chesapeake Bay ; and in the course of the winter extend their migrations as far as St. Domingo and other of the West India islands, as well as into Cayenne in the tropical parts of the continent. They are also observed in the interior of the United States, as on the Missouri, and probably other inland parts, where in the month of April, as well as on the sea coast, they are seen on their way to their northern breeding places to which they repair in May, on the thawing of the ice, and are then commonly associated by pairs. According to Hutchins their eggs are from 6 to 8; and they frequent the swamps, and feed much on insects.

The Widgeon, or Bald-Pate, is a frequent attendant on the Canvas-Back, and often profits by this association. The former, not being commonly in the habit of diving for subsistence, or merely from caprice, watches the motions of its industrious neighbor, and as soon as the Canvass-Back rises with the favorite root on which they both greedily feed, the Bald-Pate snatches the morsel and makes off with his booty. They are always very alert and lively, feeding and swimming out into the ponds and rivers at all hours of the day, but are extremely watchful, sheltering in coves and behind the land, and on the slightest attempt to steal upon them, immediately row out into the stream beyond gun-shot, and then only take to wing when much disturbed. In Carolina and the West Indies they frequent the rice fields in flocks, and in Martinico are said to do considerable damage to the crops. When thus feeding in company, they

have a sort of sentinel on the watch. At times they keep in covert until twilight, and are then traced by their low, guttural, and peculiar whistle, or *'whew 'whew*, as well as other calls, and their whistle is frequently imitated with success to entice them within gun-shot. They feed much in the winter upon aquatic vegetables, cropping the *Potamogeton* or Pond Weed, as well as other kinds of fresh-water plants and seeds, and sometimes themselves, dive and collect the roots and leaves of the *Ruppia* and *Zostera* or Sea-Wrack.

In the middle States these birds are frequently brought to market, sell well, and are much esteemed as food. As the species feeds principally on seeds, grain, and vegetables, they might probably be readily domesticated. Suited to the nature of their food, the stomach is remarkably stout and muscular.

The length of the American Widgeon is about 23 inches; the folded wing 10 inches 3 lines; length of the bill above, 1 inch 5 lines; the tarsus 1½ inches. In the *male* the front and crown is cream colored; sometimes nearly white; behind the eye a broad dark green patch, which ends in the short crest on the hind part of the head. Upper part and sides of the breast brownish-red, glossed with grey. Base of the neck above, interscapulars, scapulars, and flanks, minutely and exquisitely undulated with brownish-red and black: throat and sides of the neck yellowish-white, thickly covered with small spots of black; hind part of the back waved with clove-brown and white, the latter color prevailing on the tail coverts. Lesser wing coverts, primaries, and tail, clove-brown; intermediate and greater coverts, sides of the rump, breast, and belly, pure white. Speculum velvet-black below, green above, and bounded superiorly with black and behind with white. Exterior webs of the tertiaries, and lateral and inferior tail coverts deep greenish velvet-black, the tertiaries long and pointed, bordered and shafted conspicuously with white. Bill small, shorter than the head, clear and bright bluish-grey, bordered and tipped with black, the under mandible wholly black. Plumage of the nape somewhat lengthened. Closed wings above an inch shorter than the acutely pointed tail, which, as in the European

Widgeon consists of 14 feathers; the two long feathers, exteriorly edged with greenish-black.

In the *female* the upper plumage is dark liver-brown, edged and remotely barred with pale brown and white. The intermediate wing coverts are merely edged with white, and there is no green on the head. The tail also shorter and not so tapering. About 2 inches shorter than the male.

DUSKY DUCK.

(*Anas obscura*, Gmel. Lath. Synops. iii. p. 545. Wilson, viii. p. 141. pl. 72. fig. 5. Bonap. Synops. No. 327. Dusky Duck, Penn. Arct. Zool. No. 496. Phil. Museum. No. 2880.)

Sp. Charact. — Speculum violet-blue with green and amethystine reflections, margined with black; under wing coverts and long axillaries white; tail of 16 feathers. — *Male* and *female* nearly alike; both blackish-brown, the feathers edged with paler tints: the young and female darker.

This species seems to be an exclusive inhabitant of America, being met with from Labrador to Florida, but is not found in the higher boreal regions of the continent. It is generally known by the improper name of the 'Black Duck,' though it is merely dusky, and both sexes, nearly alike in plumage, have a great resemblance to the female of the common Mallard. It is a numerous and common species in the salt marshes, as well as fresh-water rivers and lakes. It is only partially migratory, many often wintering in the Middle and Southern States, where they also pass the summer and breed from the Carolinas to Labrador,* in retired places in the fresh water marshes, or in the sea islands, making a nest of rank weeds. The eggs, 8 to 15, are of a dull ivory white, and palatable to the taste.

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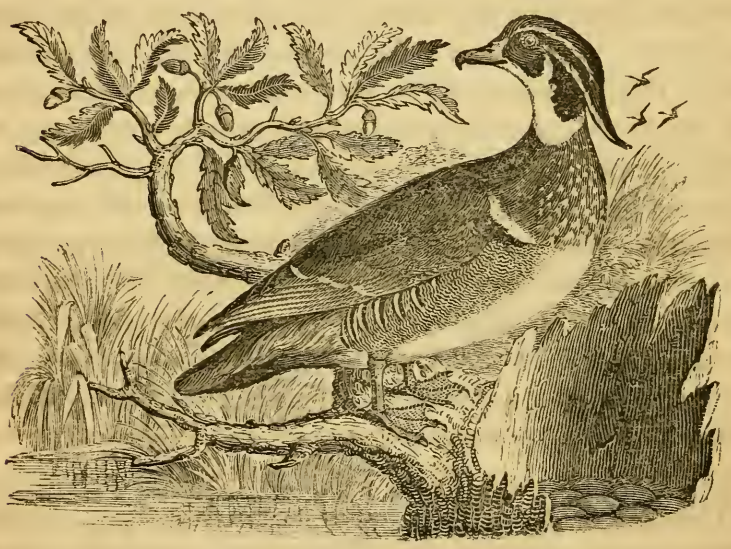
* Audubon, by letter.

Many migrate north as well as into the interior at the approach of spring. Their principal food in autumn and winter appears to consist of minute shell-fish, particularly those univalves which are so abundant in the salt marshes. They also at times, in great numbers, visit the sandy beach in quest of small bivalves and other shelly mollusca; and occasionally feed on seeds of aquatic and bog plants, such as those of the *Scheutzeria*, and as usual swallow gravel with the rest of their fare. They roost in the shallow ponds and islands where many are caught by the minx and fox; and are extremely shy during the day, being at that time very seldom seen except when surprised in their retreats, or alarmed by the report of the gun, when they often rise from the marsh in great numbers, and disperse confusedly in every direction. In calm weather they fly high, but when the wind blows hard, they proceed within gun shot over the the salt meadows, and may then be brought down in great numbers by the concealed gunner, as they proceed over their usual track. Their voice or quack resembles that of the common Wild Duck, and their flesh when well fed, notwithstanding the nature of their food, is scarcely inferior to that of any other species.

The Dusky Duck is about 2 feet in length; and 3 feet 2 inches in alar extent. The upper part of the head is deep dusky-brown, with small streaks of drab on the fore part; the rest of the head and greater part of the neck, dull yellowish-white, each feather marked down the centre with a line of blackish-brown. Inferior part of the neck, and whole lower parts, dusky, the feathers edged more or less broadly with brownish-white; upper parts the same, but deeper. Speculum blue, with green and amethyst-red reflections. Wings and tail dusky; the tail feathers sharp pointed. Bill greenish-ash, formed much like that of the Mallard, about $2\frac{1}{4}$ inches long measured from above. The legs and feet dusky-yellow.

The *female* is browner; but in other respects resembles the male, having in common with it the alar speculum.

In a beautiful and very perfect *male*, the throat and neck is of a clear brownish-white with blackish streaks. Above deep dusky, the feathers but slightly edged with dull brown; with the scapulars and primaries towards their points glossed with pale green. Speculum blue, with splendid green and amethyst-red reflections, bordered with black and slenderly edged also with white, the posterior boundary on the tertiaries ample, and deep velvet-black. The 2 central tail coverts, slightly reflected upwards at the tips. Inner lining of the wing and axillaries pale cream-white. Bill bright yellow-olive, the nail, tip beneath and laminæ black. Legs and feet salmon-red mixed with dusky, which extends over the webs.



SUMMER, OR WOOD DUCK.

(*Anas sponsa*, LINN. LATH. Synops. iii. p. 546. WILSON, viii. p. 97. pl. 78. fig. 3. BONAP. Syn. No. 328. *Dendronessa sponsa*, RICHARD and SWAINS. North Zool. ii. p. 446. Summer Duck, CATESBY. i. p. 97. EDWARDS, pl. 101. PENN. Arct. Zool. ii. p. 286. No. 493. *Le beau Canard hupé de la Caroline*, BUFF. Pl. Enlum. 980, 981. Phil. Museum, No. 2872.)

SP. CHARACT. — With a metallic gloss, the throat white: a pendant crest; speculum purplish-blue, tipped with white; under wing

coverts white, spotted with black; the tail of 14 wide and rounded feathers. The bill small and pointed. — *Male* with the head and crest golden green, with two white stripes: breast and sides of the rump bright reddish chestnut. *Female* with the head and crest brownish, and with a white space round the eye.

This most beautiful of Ducks seems to be dressed in a studied attire, to which the addition of a flowing crest adds a finish of peculiar elegance; and hence Linnæus has dignified the species with the title of *sponsa* or the bride. This splendid bird is peculiar to America, but extends its residence from the cold regions of Hudson's Bay in the 54th parallel to Mexico and the Antilles. Throughout a great part of this vast space, or at least as far south as Florida and the Mississippi territory, the Summer Duck is known to breed. In the interior they are also found in the State of Missouri, and along the woody borders and still streams which flow into most of the great north-western lakes of the St. Lawrence. The Summer Duck, so called from its constant residence in the United States, has indeed but little predilection for the sea coast, its favorite haunts being the solitary, deep, and still waters, ponds, woody lakes, and the mill dams in the interior, making its nest often in decayed and hollow trees impending over the water.

Though many migrate probably to the shores of the Mexican Gulf, numbers pass the winter in the states south of Virginia. Early in February they are seen associated by pairs on the inundated banks of the Alabama, and are frequent at the same season in the waters of West Florida. In Pennsylvania they usually nest late in April or early in May, choosing the hollow of some broken or decayed tree, and sometimes even constructing a rude nest of sticks in the forks of branches. The eggs 12 or 13 are yellowish-white, rather less than those of the domestic Hen, and they are usually covered with down, probably plucked from the

breast of the parent. The same tree is sometimes occupied, by the same pair, for several successive years, in the breeding season. The young, when hatched, are carried down in the bill of the female, and afterwards conducted by her to the nearest water. To these places, when once selected, if not disturbed, they sometimes show a strong predilection, and are not easily induced to forsake the premises, however invaded by noise and bustle. While the female is sitting, the male is usually perched on some adjoining limb of the same tree, keeping watch for their common safety. The species is scarcely ever gregarious, they are only seen in pairs or by families. The common note of the drake is *peet, peet;* but when on his post as sentinel, on espying danger, he makes a sort of crowing noise, like *'hoo eek, 'hoo eek.*

The food of the Wood Duck consists principally of acorns, the seeds of aquatic plants, such as those of the Wild Oat *(Zizania aquatica,)* *Ruppia,* &c. and insects, which inhabit in or near waters; and I have seen a fine male whose stomach was wholly filled with a mass of the small coleoptera, called *Donatias,* which are seen so nimbly flying over or resting on the leaves of the pond lily *(Nymphæa odorata;)* they are therefore very alert in quest of their prey or they could never capture these wary insects. They are not uncommon in the markets of the Eastern and Middle States, and are justly esteemed as food.

The Wood Duck has sometimes been tamed, and soon becomes familiar. They have even been so far domesticated as to run about at large in the barn yard like ordinary fowls. In France they have also been acclimated and tamed, and have bred in this condition.

Length of the species about 21 inches: of the folded wing inches; of the bill above 1 inch 4½ lines; tarsus 1½ inches. In the *male* the head above, and space between the eye and bill is glossy dark green. Cheeks and a large patch on the sides of the throat

purple, with blue reflections. Pendant occipital crest green and auricula-purple, marked with two narrow white lines, one of them terminating behind the eye, the other extending over the eye to the bill. Sides of the neck purplish-red, changing on the front of the neck and sides of the breast to bright chestnut-brown, and there sprinkled with small pencil-shaped spots of white. Scapulars, wings, and tail, exhibiting a play of duck green, purple, blue, and velvet-black colors: interscapulars, posterior part of the back, rump, and upper tail coverts, blackish-green and purple; several of the lateral coverts reddish-orange on their outer webs; a hair-like splendent, reddish-purple tuft on each side of the rump; the under coverts brown. Chin, throat, and collar round the neck, a crescentic bar on the ears, the middle of the breast, and whole of the abdomen, white. Flanks yellowish-grey, finely waved with black, the tips of the long feathers, and also of those on the shoulder, broadly barred with white and black. Inner wing coverts white, barred with dusky. Almost all the colored plumage shows a play of colors with metallic lustre. Bill, shorter than the head, considerably narrowed towards the point, like that of the Eider; its height at the rictus greater than its width, and its frontal angles prolonged; the mandibles strongly toothed; the nail strong, and much curved down. Nostrils large and pervious; the forehead sloping. Color of the bill red; a space between the nostrils, its tip, margins, and lower mandible, black. Legs orange. Occipital crest long and pendant. Wings shorter than the tail, which consist of 14 wide and rounded feathers, the two large inferior coverts nearly as large and strong as the tail feathers.

The *female* wants the fine lines on the flanks, and the hair-like tufts on the sides of the rump. The crest is also shorter; and the plumage is less vivid, particularly about the head, where it is mostly brown.

BLUE-WINGED TEAL.

(*Anas discors*, Lin. Wilson, viii. p. 74. pl. 68. fig. 4. Bonap. Synops. No. 329. Richard. North. Zool. ii. p. 444. *Le Sarcelle d'Amerique*, Briss. vi. p. 452, 35. Buff. ix. p. 279. Pl. Enlum. 966. Catesby, i. pl. 100. White-faced Duck, Lath. Synops. iii. p. 502. Penn. Arct. Zool. ii. No. 503. Phil. Museum, No. 2846.)

Sp. Charact. — Speculum green, bordered above with a single white band; wing coverts light blue; quill shafts dusky; tail of 14 feathers. — *Male*, with the head and neck purple-green; crown black; a white crescent each side of the head before the eye. *Female*, with the head and neck wholly dusky.

The Blue-Winged Teal, according to the season, inhabits every part of the American continent from the plains of the Saskatchewan and the 58th parallel, to Guiana and the West Indies. Its breeding place, however, is to the north and west; they are particularly abundant as early as August in the Territory of Michigan, and Mr. Say observed them there on the 7th of June; so that they probably breed in the vicinity of the great lakes of the St. Lawrence, as well as in the remote interior of the Canadian fur countries. Mr. Say also observed the Blue-Winged Teal at Pembino in the latitude of 49° on the 5th of August. They arrive in this vicinity, and other parts of Massachusetts near to the sea coast, early in September, and according to Wilson, are seen soon after on the muddy shores of the Delaware, where they are often observed basking or hiding in crowded companies close to the edge of the water, where they can only be approached under cover. They fly out with rapidity, and when they alight, drop down suddenly among the reeds in the manner of the Snipe or Woodcock. As the first frosts come on, they proceed to the south, and then abound in the inundated rice fields of the Southern States, where great numbers are taken in traps placed on the small dry eminences that here and there rise above the water, to which they are decoyed with rice, and by the common contrivance called a figure four, they are taken alive in box traps. In the month of April they pass through Pennsylvania, on their way to the north, but make little stay at that season; they are seen also in the spring in the state of Missouri, and spread themselves widely to breed throughout

a great extent of the western and northern wilderness. Though often contiguous to the sea they have no predilection for visiting the shores, feeding chiefly on vegetables and insects, and particularly on the *Zizania* or Wild Rice which abounds in the North Western lakes and sluggish streams. They are much esteemed as game, and commonly become very fat. Their note, somewhat like a diminutive quack, is uttered low and somewhat rapid.

The length of the Blue-Winged Teal is about 18 inches; the folded wing 7 inches 3 lines; the bill above, 1 inch 7½ lines; the tarsus 1 inch 2 lines. In the *male* the upper surface of the head, and under tail coverts are brownish-black. A broad white crescent from the forehead to the chin, bordered all round with black; sides of the head and adjoining half of the neck bright lavender-purple; base of the neck above, back, tertiaries, and tail coverts, brownish and blackish-green. The fore parts, including the shorter scapulars, margined and marked with semi-ovate pale brown bars; longer scapulars longitudinally striped with blackish-green, berlin-blue, and pale brown. Lesser wing coverts pure pale blue; greater coverts white, their bases brown. Speculum dark green. Primaries, their coverts, and the tail, liver-brown. Sides of the rump, longer under wing coverts, and axillary feathers, pure white. The under plumage pale reddish-orange, glossed with chestnut on the breast, and thickly marked throughout with round blackish spots, which on the breast and tips of the long flank feathers change to bars. Bill bluish-black. Feet yellow.

The *female* is without the white patches on the sides of the rump, the crescent before the eye, and the rich purple tint on the head and neck. The upper plumage is also browner, and the pale bars are less distinct and handsome. The under plumage is white and brown, with irregular blotches of a darker color, instead of round spots. The wings as in the male. The *young* birds are without the green speculum, and in other respects are like the female.

AMERICAN TEAL.

(*Anas crecca*, var. Forster, Phil. Trans. lxii. p. 419. No. 51. Richard. North. Zool. ii. p. 443. *Anas crecca*, Bonap. Synops. No. 330. American Teal, Penn. Arct. Zool. No. 504. Green-Winged Teal (*Anas crecca,*) Wilson, viii. p. 101. pl. 70. fig. 4. Phil. Museum, No. 2832.)

Sp. Charact. — Speculum vivid grass green, black on the sides, margined with white and rufous; wing coverts brownish-ash; tail of 16 feathers. — *Male* with the head and neck glossy chestnut; a green band on each side of the head; the throat black. Var. (*americana*) with a white longitudinal band on the scapulars, and a broad transverse white bar on the shoulder: these marks wanting in the European individuals. *Female* wholly dusky, skirted with whitish; the throat white.

The Green-Winged Teal, as a species, is common to the northern and temperate parts of both continents. The American bird appears to be a permanent and distinct variety. There is, according to Dr. Richardson, however, in

the Hudson's Bay Museum, a specimen from the fur countries agreeing in all respects with the European species. Our variety is abundant to the extremity of the continent, both in the woody and barren districts of the remote fur countries of Hudson's Bay. It is also plentiful about Severn river, in the woods and plains near fresh waters, where it breeds, the young being about 6 or 7 at a hatch. It feeds much upon fresh-water insects, seeds, and aquatic plants, and when fat is delicate food. In the autumn and winter it is very common throughout the waters of the United States, both in the interior and contiguous to the sea coast. In the course of the winter they retire as far south as Jamaica, and are probably common also along the coasts of the Mexican Gulf. It frequents ponds, marshes, the reedy shores of creeks and rivers, and in winter is very abundant in the rice plantations of the South. They usually fly in small parties, feeding mostly by night; associating with the Mallard, and are commonly decoyed by its call.

The Teal is found in the north of Europe as far as Greenland and Iceland, and it also inhabits the borders of the Caspian to the south. In France and England it is said to breed. They are commonly seen on the pools, in close companies of ten or twelve together, frequenting the rivers and unfrozen springs in winter, where they subsist on aquatic plants. They fly very swiftly, and utter a sort of whistling cry. The Teal breeds in the fens, continuing in the temperate parts of Europe the whole year. It conceals its nest among the bulrushes, constructing it of their stalks, and lining it with feathers; it rests also sometimes on the surface of the water, so as to rise and fall with the flood. The eggs are about 10 or 12, of a soiled white, indistinctly marked with brown spots. The female takes the whole management of incubation; the males, at this time, seem to leave them and associate by themselves in companies.

The American Teals in the autumn, which visit this quarter, are also for the most part young birds and females, the males pursuing a different route apart from the rest, and are rarely seen here until their return in the spring.

According to Richardson, the American Teal is about 15 inches in length: the wing when folded 7 inches; the bill above, 1 inch 5 lines; tarsus 1 inch 2 lines. In the *male*, the head and adjoining half of the neck is chestnut-brown. Chin, region of the bill, and forehead, brownish-black. Behind the eye a broad duck-green band, narrowly edged with white. Nuchal crest tipped with deep indigo blue. A collar, base of the neck above, interscapulars, part of the scapulars, the flanks and vent, finely waved with brownish-black and white. Outer border of the scapulars black; the interior and longer scapulars, wing coverts, primaries, posterior part of the back and tail, hair-brown. Tail coverts velvet black and green, with whitish edges. Speculum half velvet black, half vivid grass-green, bordered above and below with brownish-white, and posteriorly on the tertiaries and scapulars with black. Breast wood brown, with round black spots. A crescentic band on the shoulder; belly and under lateral tail coverts white, middle ones black. Bill bluish-black. Irids yellow. Feet bluish-grey, mixed with red. Tracheal dilatation an osseous capsule, capable of holding a pea.

The *female* is without the crest, and brilliant colors on the head, as well as the stripes on the scapulars, the black under tail coverts, the round spots on the breast, and all the fine waved markings on the base of the neck, flanks, &c. The upper plumage, breast and flanks, is liver-brown, with pale margins. Head and neck the same, with smaller specks. Chin and belly white, the latter obscurely marked with brown.

In a *male* just moulting into the adult plumage (now before me.) The bill is of an olive-grey, dotted beneath the epidermis with black, the under mandible brownish flesh color, also spotted and tipped with dusky. The irids are umber-brown. The legs and feet light yellowish-grey, with darker webs. The green band behind the eye wants the white edging. The scapulars, wing coverts, posterior part of the back and tail are plain dark ash color, the coverts faintly glossed with green; the quills dusky brown. The undulated back feathers are succeeding others which are simply dusky with dull rufous-white edgings. The speculum is complete and vivid, according to the

position of the light, the brilliant part is golden-green or bluish-green, broadly bordered above with pale rufous, below with white. The black spots of the breast not fully developed externally, but conspicuous on raising the feathers. Lateral tail coverts buff, the under ones deep black with broad whitish-buff edgings and tips. The central upper tail coverts dark grey, tinged with buff, the lateral ones glossy green, internally edged with pale buff. The white crescentic shoulder band, scarcely indicated by some lighter barred feathers. Length 15 inches.

Subgenus. — *Gymnathus.

With the cheeks bare of feathers, and covered by a papillose cuticle which extends behind the eyes, and enlarges in the male into a caruncle at the base of the bill. The upper mandible terminates in a sharp curved nail. The legs very short and stout; the nails of the toes are large, and that of the inner one hooked.

This very singular Duck is an inhabitant of the warm and tropical parts of America, from whence it seldom migrates to any considerable distance. In its domestic condition, with which we are familiar, it has a slow, waddling, and heavy gait; yet in the wild state it is said to perch on trees or stumps on the borders of rivers and swamps. They nest also in trees, from whence, when hatched, the female conveys her young in the bill to the water. In the mild regions of their nativity they hatch two or three times in the year, and are extremely prolific, laying from 12 to 18 eggs. They moult in September, and so completely as to be entirely denuded of feathers, and unable to fly. Their voice is little more than a mere hiss.

MUSK or MUSCOVY DUCK.

(*Anas moschata*, Willughby, p. 294. Linn. Syst. i. p. 199. sp. 16. Lath. Ind. sp. 37. Id. Synops. iii. p. 476. sp. 31. Sloane, Hist. Jamaica, p. 324. No. 8. *Le Canard Musqué*, Buff. Pl. Enlum. 989. *Anas sylvestris magnitudine anseris*, Marcgrave, Hist. Nat. Brazil, p. 213. *Ipeca-guacu*, Piso, Hist. Nat. *Canard Sauvage du Bresil*, Salerne, p. 438. *Anas sylvestris Brasiliensis*, Ray, p. 149. No. 3.)

Sp. Charact. — No speculum; the three first primaries white: tail of 20 feathers. — *Male* dark brown, glossed with green; wing coverts, belly and head, white, the latter varied with black; breast and below brown. *Female* darker; and the naked space about the head smaller.

The Musk Duck derives its name from its exhaling at times a strong odor of that drug. The term Muscovy is wholly misapplied, since it is an exclusive native of the warmer and tropical parts of America and its islands. They exist wild in Brazil, Demerara, and the overflowed savannas of Guiana, and are occasionally seen along the coasts of the Mexican Gulf, in the lower part of Mississippi, and stragglers are frequently observed along the coasts of the warmer parts of the Union.

They feed in the tropical savannas chiefly upon the seeds of some grasses which resemble, and are called, wild rice; flying in the morning to those immense and overflowed meadows to feed, and returning in the evening to their roosts near the sea. They are said to pass the warmer parts of the day indolently perched upon trees, which overhang the rivers and marshes, in the hollows of which, like our Wood Ducks, they construct their nest, and convey the young to the water as soon as they are hatched. They breed at all times of the year, and are very prolific, but many of the young fall victims to the Caymans and other predatory animals with which those countries are infested. The eggs are nearly quite round and of a greenish-white color. The male is very ardent and readily couples with the Domestic Duck. In a wild state they are very shy and watchful and approached with difficulty.

The Musk Duck is now commonly domesticated, feeds and fattens well, is deservedly esteemed as food, more particularly the young, and though derived from the mildest of climates, endures the winter of the Eastern and Northern States without any difficulty or hardship. In the poultry

yard, like Turkeys, they have very singular and exciting antipathies. On such occasions both Ducks and Drakes shake their tails, stretch out their heads, and hiss and quack in a low tone with great affectation of anger and earnest. The male puffs and blows very much, but the whole one by one make their retreat before a small clucking Hen, who seems to view them with total indifference. Two males will also sometimes wage a very warm but harmless war in jealousy. In Virginia and North Carolina these domestic birds begin to lay as early as February.

The Musk Duck is about 2 feet long. The bill about 2 inches, red, except about the nostrils and at tip, where it is dark brown. A broad red and naked skin sprinkled with papillæ, covers the cheeks, extends behind the eyes and swells out at the base of the bill into a red caruncle, which Belon compares to a cherry. The crown black; temples, chin, and throat, white, varied with spots of black. Breast and upper part of the belly brown, mixed with white. Back and rump brown, glossed with golden-green. The lower part of the belly white. The three first quills white, the remainder brown. The tail very large and full, consisting of 20 feathers, golden-green, except the outer feather on each side, which is white. Legs red. The *female* more obscurely colored, and the naked space about the head smaller.

SEA DUCKS. (Fuligula, *Bonap*, and *Ray* in part.)

In these birds the BILL is generally similar with that of the preceding genus. The head is thick, wholly feathered, and the neck stout and much shorter than the body. The FEET are placed very far back, and are large and stout; the tibia partly covered by the skin of the belly, and furnished in front with an acute prominence; tarsus much shorter than the middle toe, extremely compressed; the toes rather long, middle one longest; the inner shorter than the outer; the webs entire, very broad: *hind toe* equal to a joint of the middle one, *furnished with a membrane*, touching the ground at tip. *Wings* rather short, 1st and 2d, or 2d and 3d primaries, about equal, and longest. *Tail* of from 12 to 20 feathers.

The female very different from the male in plumage; the male

hardly changing from season. The young similar to the female, only assuming the adult dress in the second or third year. They moult twice a year without changing color. Tracheal capsule of the male large. Plumage closer and thicker than in the ordinary Ducks.

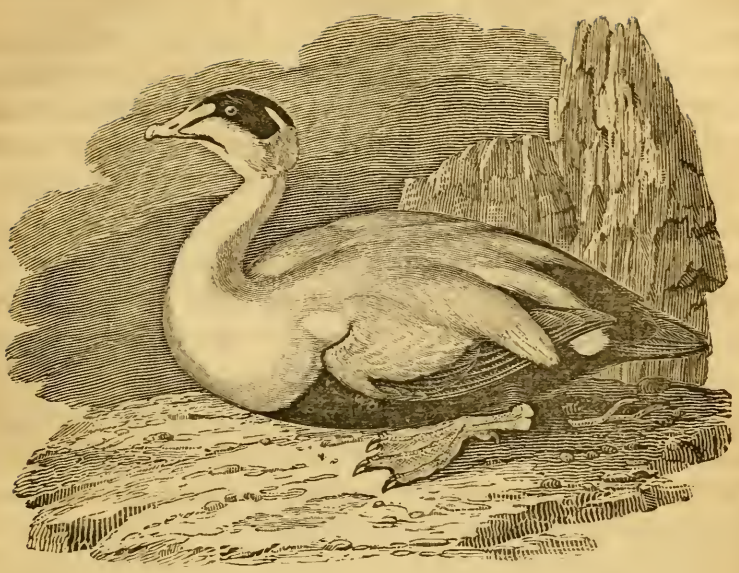
The birds of this family mostly dwell in the north. They migrate in large flocks, chiefly along the sea coast; seeming to have a predilection for the sea, however boisterous its waves, and swim and dive with great agility, proceeding considerable distances under water, and dive habitually both for food and amusement. They are, however, somewhat nocturnal, feeding and travelling sometimes by night. In their migrations, however, several of the kinds proceed on their aërial voyage by day, particularly in blowing and hazy weather; at such times, also, in autumn and winter, they are seen abroad in the bays and estuaries, throughout the principal part of the day. They feed chiefly upon mollusca, diminutive shell-fish, small fry, and marine vegetables, after all which they usually dive. They are monogamous; breeding generally near fresh waters, and lining the nest with down; the eggs are numerous. The female alone incubates, and leads the young to the water after their food as soon as they are hatched. From the position of their feet they are scarcely able to walk, being obliged to bring the body nearly erect; they run, however, somewhat rapidly, though with an awkward attitude, appearing to fall at every attempt in progress. They swim deep in the water; and their flight, though often steady, rapid, and long continued, is low, heavy, and attended with a whistling sound.

Though chiefly hyperboreal, they are spread more or less over the whole globe, and the species are numerous.

Subgenus. — Somateria, *(Leach*, Genus of.)

In these the *bill* is small, elevated at base, extending up the forehead, and divided by a salient point of the frontal feathers, towards the extremity narrow and blunt; nostrils about medial. Wings short, the tertiaries long, and generally curved outwards so as to overlap the primaries. Neck thick. Tail of 14 feathers.

The plumage is remarkably thick and close: the down valuable, and of an exquisite softness. These are exclusively marine; breeding near the sea; but are comparatively not very prolific. The male Eider does not acquire his perfect plumage before the fourth year. Allied to the genus *Anser*.



EIDER DUCK.

(*Fuligula mollissima*, Bonap. Synops. 331. *Anas mollissima*, Lath. Ind. sp. 35. Temm. Man. d'Orn. ii. p. 848. Wilson, viii. p. 122. pl. 71. fig. 2. and 3. [male and female.] *Somateria mollissima*, Leach. Richard. and Swains. North. Zool. ii. p. 448. Eider Duck, Penn. Arct. Zool. No. 480. and Brit. Zool. p. 152. t. Q. [male and female.] Great black and white Duck, Edwards. pl. 98. *Oie à duvet, ou Eider*, Buff. Ois. ix. p. 103. t. 6. Pl. Enlum. 208, and 209. [male and female.] Phil. Museum, No. 2706.)

Sp. Charact. — Frontal plates of the bill linear-oblong: no speculum. — *Male* black, head, neck, breast, and back white; front and sides of the crown blue-black. *Female* wholly palish rufous, broadly barred with black; one or two narrow white indistinct bands across the wings.

The Eider Duck, remarkable for the softness of its valuable down, seems thus purposely provided by nature with a clothing suited to the inclement regions in which it generally dwells. Living mostly out at sea, it is thus enabled to endure the severity of the glacial regions, for

which it has such a predilection. The older birds are indeed only partially migratory, moving no further southward in winter than to permanent open water. Its presence, with a few other birds of like habits and hardihood, contributes to give an air of animation to the bleak and dreary coasts of Greenland and Spitzbergen. They are equally abundant in Lapland, Norway and Iceland, at Bering's Island, and the Kuriles, as well as in the Hebrides and Orkneys in Scotland; they are more rare in Sweden and Denmark, passengers in Germany, and the young only appear on the European coasts of the Atlantic. They are found throughout Arctic America, and in severe winters sometimes wander as far south to sea, as the capes of the Delaware. In the depth of winter, or from November to the middle of February, the old birds are also usually seen in small numbers towards the extremities of Massachusetts Bay, and along the coast of Maine. A few pairs even have been known to breed on some rocky islands beyond Portland. Mr. Audubon found several nesting on the isle of Grand Manan in the Bay of Funday; but on the bleak and wintry coast of Labrador they were seen by him in abundance, nesting and laying from April to the last of May. Their eggs were from 6 to 10, dull greenish-white, and smooth. The nest was usually placed under the shelter of a low prostrate branched and dwarf Fir (probably *Pinus Banksiana,)* and sometimes several are made under the same bush within a foot or two of each other. The groundwork of the nest, as usual, was sea-weeds and moss, but the down of the female parent is only added when all the eggs are laid. The Duck now acquiring an attachment for her eggs, was at this time easily approached, her flight being even and rather slow. As soon as the task of incubation has commenced, the males leave the land, associate together in large flocks out at sea; in July begin to moult, and in

August become so bare as to be scarcely able to rise out of the water.

As soon as the young are hatched they are led to the water, by their attentive parent, and there remain, excepting in the night and in tempestuous weather. Their greatest enemy, besides man, is the Saddle-Back Gull *(Larus marinus,)* the young, however, elude his pursuit by diving, at which both old and young are very expert. The down, though so valuable, is neglected in Labrador.* It is so light and elastic that two or three pounds of it, pressed into a ball that may be held in the hand, will swell out to such an extent as to fill and distend the foot-covering of a large bed. The best kind, termed live down, is that which the Eider plucks to line the nest, the down taken from the dead bird is greatly inferior, and it is rare that so valuable a bird is now killed for the purpose. To augment the quantity of down from the same bird, the eggs, which are very palatable, are taken, and the female again strips herself to cover the second and smaller hatch. If the nest be a second time plundered, as the female can furnish no additional lining, the male now lends his aid, and strips the coveted down from his breast, which is well known by its paler color. The last laying, of only two or three eggs, is always left to kindle their hopes of progeny, for if this be taken they will abandon the place, but thus indulged, they continue to return the following year, accompanied by their young. The most southern breeding place of this species in Europe is the Fern isles, on the coast of Northumberland; and voyagers who have ventured to the dreary extremity of Arctic Europe, hear, in summer, from the caverns and rocks of the final Cape, the deep moan of the complaining Eider. The eggs are commonly 5 or 6, but it

* For this information I am indebted to my very obliging friend, Mr. Audubon.

is not unusual to find upwards of 10 in the same nest, which is thus occupied peaceably by two females. In Norway and Iceland, the Eider districts are considered as valuable property, carefully preserved, and transmitted by inheritance. There are spots that contain many hundreds of these nests; and the Icelanders are at the utmost pains to invite the Eiders, each into his own estate; and when they perceive that they begin to frequent some of the islets which maintain herds, they soon remove the cattle and dogs to the main land, to procure the Eiders an undisturbed retreat; and to accommodate them, sometimes cut out holes in rows on the smooth sloping banks, of which, to save themselves trouble, they willingly take possession and form their nests. These people have even made many small islands for this purpose, by disjoining promontories from the continent. It is in these retreats of peace and solitude that the Eiders love to settle; though they are not averse to nestle near habitations, if they experience no molestation. "A person," says Horrebow, "as I myself have witnessed, may walk among these birds while they are sitting, and not scare them; he may even take the eggs and yet they will renew their laying as often as three times." According to the relation of Sir George Mackenzie,* on the 8th of June at Vidöe, the Eider Ducks, at all other times of the year perfectly wild, had now assembled in great numbers to nestle. The boat, by which they approached the shore, passed through multitudes of these beautiful fowls, which scarcely gave themselves the trouble to go out of the way. Between the landing place and the governor's house the ground was strewed with them, and it required some caution to avoid treading on the nests. The Drakes were walking about, uttering a sound very like the cooing of Doves, and were

* Travels in Iceland, p. 126. (4to. Ed. 2.)

even more familiar than the common Domestic Ducks. All round the house, on the garden wall, on the roofs, and even in the inside of the houses, and in the chapel, were numbers of Ducks sitting on their nests. Such as had not been long on the nest generally left it on being approached; but those that had more than one or two eggs sat perfectly quiet, suffering us to touch them, and sometimes making a gentle use of their bills to remove our hands. When a Drake happens to be near his mate, he is extremely agitated when any one approaches her. He passes and repasses between her and the object of his suspicion, raising his head and cooing.

One female, during the whole time of laying, generally gives half a pound of neat down, and double that quantity before cleansing. According to Troil,* in the year 1750, the Iceland Company sold as much of this article as amounted to £850 sterling, besides deducting what was sent directly to Gluckstad.

At the time of pairing, according to Brunnich, and Skioldebrand, the male is heard continually calling out with a raucous and moaning voice *'ha ho, 'ha ho;* but the cry of the female resembles that of the Common Duck. At this exciting period the males, more numerous than their mates, have sharp contests with each other, and the vanquished and superannuated are afterwards seen wandering about at sea, in much milder climates than the rest of their fraternity. Both birds labor in concert, while forming the nest; and though the male gives no assistance in hatching, during the period of laying, he keeps strict watch in the vicinity, giving notice of any danger as soon as it appears. The Ravens, it seems, no less than the Gulls, are the enemies of this valuable bird, often sucking the eggs, and kill-

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ing the young; the female therefore hastens to convey her brood to the sea, sometimes even carrying them on her back to the element in which they are thenceforth destined to live. The male now also leaves her, and neither of them return more that season permanently to the land. Several hatches associate together at sea, and form flocks of 20 or 30, attended by the females who lead them; and are seen continually splashing the water, to raise with the mud and sediment, the insects and small shell-fish for such of the young as are too weak to dive for themselves. The Eider dives deep after fry, and feeds upon small shell-fish, muscles, and univalves, and sometimes on the Sea-Urchin *(Echinus)* and various kinds of marine insects and sea-weeds, and in summer mostly on the soft mollusca so abundant in the Arctic and hyperboreal seas. Their flesh is dark and fishy, though sufficiently tender, and that of the young and the female may be considered good. They are commonly eaten by the Greenlanders, and their skin is esteemed as an excellent inner garment. Prepared with the feathers left on, they also form an article of commerce with the North, and particularly with the Chinese. Fitted purposely for inhabiting the coldest climates and the sea, they do not long survive in temperate regions, and all attempts to domesticate them have consequently failed.

In the breeding season, in Norway, some of the male Eiders are seen roaming about unpaired, either superannuated or unable to keep possession of the females. Mr. Audubon remarks, that the Sea Ducks (Eiders, Surf Duck, Velvet, and Scoter) moult in July, and by the 10th of August are so naked of feathers, and even destitute of quills, as to be unable to rise either from the water or the ground. At this juncture, in the Bay of Fundy, the Indians in large companies assemble in their canoes at the entrances of the bays frequented by these birds, and divi-

ding themselves on either side of the head-land, fire their guns with powder, and hooting and yelling as loud as possible, drive the terrified birds into the cove at high tide, where the natives remain until the ebb. The Ducks are thus left grounded on the naked coast, and are then easily dispatched with clubs. In this most destructive way, as many as 450 or upwards have been taken in two hours. Many, if not all of these, as well as the Loons by which they were accompanied, Mr. A. believed to be barren or unpaired birds, which had not proceeded to the north with the rest of the flocks.

The total length of the Eider is about 25½ inches; the closed wing 12 inches 9 lines; the bill above to its utmost extension along the front 3 inches 1 line, to the intersecting point of the frontal feathers 2¼ inches; tarsus 2 inches 1 line. In the *male*, there is on each side the frontal plate and sides of the head above and through the eyes a very wide band of rich violet-black, whose extremities unite upon the front. The cheeks, angular band on the summit of the head as well as the occiput, pale, or siskin-green fading off into the surrounding white plumage. Cheeks, chin, neck, breast, back, scapulars, lesser coverts, curved tertiaries, sides of the rump, and under wing coverts, white; the tertiaries faintly tinged with greenish-yellow, and the breast with reddish-white or flesh color, deepest towards its junction with the black below. Greater coverts, quills, rump, tail, and its coverts, as well as the rest of the under plumage, pitch-black; but the ends of the quills and tail fading into dusky-brown; the posterior greater coverts have a tinge of violet. The bill oil-green. Legs greenish-yellow. Iris brown. Closed wings nearly 5 inches shorter than the tail. Nostrils impervious.

The *female* is bright yellowish-rufous, transversely barred with black. Wing coverts dusky-brown, edged with dull rufous; the greater coverts and secondaries narrowly tipped with white, so as to produce the appearance of one or two indistinct bars. Head and upper part of the neck marked with dusky stripes. Under plumage clove-brown, with obscure darker blotches. — The *young male* resembles the female.

KING DUCK.

(*Fuligula spectabilis*, Bonap. Synops. No. 332. *Anas spectabilis*, Linn. Faun. Suec. No. 112. Lath. Ind. No. 36. Temm. ii. p. 851. *Somateria spectabilis*, Leach. Richard. and Swains. North. Zool. ii. p. 447. King Duck, Penn. Arct. Zool. No. 481. Grey-headed Duck, Edwards. pl. 154. *Le Canard à tête grise*, Buff. Ois. ix. p. 253.)

Sp. Charact. — Frontal plates of the bill broad, and rounded: no speculum. — *Male* black; neck and back white, the crown and nape bluish-grey; an arrow-shaped black mark on the throat. *Female* similar with that of the Eider; but with the frontal plate nearly vertical.

This species, so nearly allied to the Eider, is also an inhabitant of the same glacial regions, living generally out at sea, and feeding independently of the land, chiefly upon the mollusca which abound in the Arctic Sea. They are never seen in fresh waters, and only resort to land for the indispensable purposes of reproduction. Being well provided with a thick and downy robe, they are little inclined to change their situation, however rigorous the climate, and, as the frost invades their resorts, they continually recede farther out to sea, and dwell securely amidst eternal barriers of ice and all the horrors of an arctic winter. The King Duck, still more sedentary than the Eider, is seldom seen beyond the 59th parallel, except in the depth of winter, when, according to Audubon, they are observed off the coast of Halifax, in Nova Scotia, Newfoundland, &c. and a few have been obtained off Boston and at Eastport in Maine. They abound in Greenland and Spitzbergen, visit and sometimes breed in the Orkneys, and other of the remote Scottish isles. A few are also occasionally seen on the coasts of the Baltic and in Denmark. They breed sometimes in the crevices of rocks impending over the sea, making a nest of sticks

and moss, lined with the down of the breast in the manner of the Eider. The eggs are 5 or 6 in number, rather less than those of the Goose, and of a whitish color. The flesh is said to be palatable, the gibbous part of the bill being accounted a delicacy, and the down, collected by the Greenlanders, is esteemed of equal value with that of the preceding species. Inhabiting all parts of the hyperboreal regions, they are found on the opposite side of America in Siberia and Kamtschatka.

The length of the male of this species is about 24½ inches; the wing 11½; of the bill to the front 1 inch 2 lines: the tarsus 1 inch 10½ lines. The height of the frontal plates 1½ inches, the breadth 1 inch. In the *male*, the frontlet, circumference of the frontal plates, under eye-lid, edge of the upper one, and two converging bands on the throat, meeting on the chin, rich velvet-black. Top of the head and nape bluish-grey. Cheeks of a shining pistachio-green. Line over the eye extending to the nape, and the breast ochre-yellow. Neck, fore part of the back, most of the lesser wing coverts, and the sides of the rump white. Scapulars, greater coverts, lesser quills, curved tertiaries, rump, tail coverts, and under plumage, ink black. Borders of the wings, greater quills and tail, blackish-brown. Bill vermilion-red, the nail of it strong and vaulted, flesh color; frontal plates and base of the lower mandible dutch-orange. Legs ochre-yellow. Frontlet, rising from behind the nostrils, nearly perpendicular to the bill, compressed and bounded laterally by two broad, flat, rounded fleshy plates. Nostrils pervious. Wings much shorter than the tail. The bill of the *female* is shorter than that of the Eider. The *young male* has the head and neck of a dusky yellowish-grey, crowded with blackish spots. The under plumage mostly pitch black, with yellowish-brown edgings. Breast and flanks yellowish-brown, spotted and barred with black. Belly the same color intimately mixed. Bill as in the female.

Subgenus. — Oidemia, *Bonap.* (Genus of, *Fleming.*)

With the *bill* broad, and gibbous above the nostrils, its margins dilated; lamelliform teeth coarse. *Nostrils* nearly in the middle of the bill, large and elevated. The *tail* consisting of 14 feathers. — The prevailing color in these birds is black; the female brown. This tribe of Ducks live principally at sea, and frequent the edge of the surf.

BLACK, or SURF DUCK.

(*Fuligula perspicillata*, Bonap. Synops. No. 333. *Anas perspicillata*, Linn. Lath. Ind. ii. p. 847. sp. 42. Wilson, viii. p. 49. pl. 67. fig. 1. [male,] Temm. Man. d'Orn. ii. p. 853. *Oidemia perspicillata*, Richard. and Swains. North. Zool. ii. p. 449. Black Duck, Penn. Arct. Zool. No. 483. Great Black Duck, from Hudson's Bay, Edwards, pl. 155. *Macreuse à large bec, ou Marchand*, Buff. Ois. ix. p. 244. Pl. Enlum. 995. Phil. Museum, No. 2788.)

Sp. Charact. — No speculum; the feet red; the bill with a protuberance on each side. — *Male* glossy black; the crown and nape marked with white. *Female* sooty-brown, near the bill and auriculars, whitish.

This species of Sea Duck, with other dark kinds here commonly called Coots, may be properly considered as an American species; its visits in the Orkneys and European seas being merely accidental. They breed on the Arctic coasts, and extend their residence to the opposite side of the continent, having been seen at Nootka Sound by Captain Cook. During summer they feed principally in the sea; they also commonly frequent shallow bars and surf-lashed shores and bays in quest of various kinds of small

shell-fish, for which while on our coast they are almost perpetually diving. They begin to migrate southward from their northern resorts in company with the Long-Tailed Ducks *(Fuligula glacialis,)* at which period the flocks halt both on the shores of Hudson's Bay, and on the lakes of the interior, as long as they remain open, feeding on tender shelly mollusca.

The Surf Duck or Sea Coot breeds also along the shores of Hudson's Bay and in Labrador,* and is said to make a nest of grass, lining it with down or feathers, and lays from 4 to 6 white eggs, which are hatched in the month of July. They select the borders of fresh-water ponds for their eyries, on which the young are fed and protected, until they are nearly ready to fly.† Although they extend their migrations to the coast of Florida, they often continue along all the shores and open bays of the Union throughout the winter; or, at least parties go and come during the greater part of the period. Early in May, or the close of April, they are again seen bending their course towards the north. They are shy birds to approach, but can be decoyed by imitative wooden ducks of the same general appearance. Their flesh, however, remarkably red and dark when cooked, is very fishy, and has but little to recommend it; the young birds are somewhat superior in flavor, but the whole are of little consequence as game, though often eaten by the inhabitants of the neighboring coasts.

Length about 2 feet; the wing 9½ inches; the bill above, 1 inch 4½ lines; the tarsus 1 inch 3 lines. *Male;* velvet-black, with a reddish reflection. Throat brownish. A broad white band between the eyes, and a triangular patch of the same on the nape. Bill reddish-orange, the nail paler; a square black spot on the lateral protuberance. Legs orange, the webs of the feet brown. The bill much like that of the following species *(F. fusca,)* but the lateral

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* Audubon in lit. † Audubon.

protuberances are naked and horny, and the central one is feathered farther down. As in the other species of this section, the bill and forehead are inflated, causing the head to appear lengthened and the crown depressed.

The *female* is browner; and the under plumage paler; the back and wing coverts narrowly edged with grey; the breast, flanks and ears, with some whitish edgings. Bill black; its base not so much inflated, and the nostrils smaller than in the male.

VELVET DUCK.

(*Fuligula fusca*, Bonap. Synops. No. 335. *Anas fusca*, Linn. Gmel. Lath, Ind. sp 44. Temm. ii. p. 854. Wilson. viii. p. 137. pl. 92. fig. 3. [male.] *Oidemia fusca*, Fleming. Richard. North. Zool. ii. p. 449. Velvet Duck, Penn. Arct. Zool. No. 482. *La double Macreuse*, Buff. Ois. ix. p. 242. Id. Pl. Enlum. 758. [old male.] Phil. Museum, No. 2658.)

Sp. Charact. — Speculum white; feet red. — *Male* black; a white crescent under the eye. *Female* blackish-brown.

The Velvet Duck is common to the northern regions of both continents, where it retires late in the spring to pass the period of reproduction. Like the preceding, they live principally upon the sea and its productions, diving often in broken water for shell-fish and other marine bodies. They breed along the Arctic coasts and around Hudson's

Bay and Labrador,* retiring inland for the purpose ; nesting contiguous to small fresh-water pools in the shelter of Juniper or Pine bushes, laying from 8 to 10 white eggs, which the female closely covers with her elastic feather. The young are attended by the female only, who remains with her brood in these seclusions until they are nearly ready to fly. She also makes a show of defending them, and the young themselves often by their great alertness in diving escape the attacks of their enemies. They are abundant in the Orkneys and Hebrides, as well as in Norway, Sweden, and Lapland ; and are common in some parts of Siberia and Kamtschatka. Near Kengis, on the banks of the Tornea in Lapland, a little beyond the 67th parallel, Skiöldebrand remarked them nesting in trees, particularly Pines, accompanied by the Golden Eye *(Fuligula clangula.)* The inhabitants, he also adds, knowing the trouble they have in forming their nests, attach hollowed pieces of wood to the trees for their convenience ; and in recompense receive a quantity of their eggs, which supply the place of those of the common fowl, no longer found to endure the severity of these hyperboreal climates.†

On the commencement of incubation, the males leave the land and again assemble together in flocks out at sea. In the moulting season, which soon after takes place among these seceding birds, the natives at Ochotska to the number of fifty or more, as already related of the Indians of the Bay of Fundy, taking advantage of the flood tide, drive the whole flock, before them up the river, in canoes, and as soon as the water ebbs, they dispatch them with clubs in such numbers that each individual often comes in for 20 or 30 to his share.

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* Audubon, in lit.

† Skioldebrand's, Picturesque Voyage au Cap Nord.

The Velvet Duck is said to return late to its breeding quarters in Sweden, the eggs being sometimes found fresh as late as the beginning of July. In April they are seen, in cloudy weather more particularly, proceeding steadily on wing in large flocks towards their northern destination. At these times they fly low in an irregular angular phalanx, making a straight course just outside of the land, and are perfectly silent and intent on their voyage. In the spring of 1831, I saw them thus migrating by thousands, though not more than 12 to 20 associate in any one flock. They proceed in all probability to the very extremity of the Union, in the course of the winter, are very abundant in the Bay of Chesapeake, being usually accompanied by the Scoters, and are taken sometimes in the same nets with them. With the other dark species of this subgenus they are here known by the appellation of Coots, and these are distinguished by the name of the White-Winged kind. Whether from their nocturnal habits or what other cause, I cannot pretend to say, when they have been seen in Fresh Pond, which they sometimes visit, at least the young, their heads have been observed nodding, as though they were oppressed by sleep; and we sometimes here have a saying of being as sleepy as a Coot. The flesh of the old bird is strong, dark, and sedgy, yet they are much sought after in this quarter, and often exposed for sale in the market, particularly the young birds whose flavor is more tolerable. They arrive in this vicinity from the north about the close of September, and according to Richardson, spend some time on the coasts of Hudson's Bay and the lakes of the interior previous to their departure for the south.

The Velvet Duck is about 2 feet 1½ inches in length; the wing 10 inches 9 lines; the bill above, 1 inch 7 lines; the tarsus 1 inch 10½ lines: alar stretch 3 feet. The *male* is of a deep and velvety black. Beneath the eyes and at the posterior angle there is a white

crescent. A white speculum on the wing. Sides of the bill red-lead fading into orange, protuberance between the nostrils, the margins and posterior part of the under mandible, black; nail vermilion, the anterior flat portion of the upper mandible whitish. Irids white, tinged with straw-yellow. Legs scarlet with black webs, and a tinge of black on the joints. Nostrils large, oval, and pervious, opening into a protuberance which forms part of the forehead. Toes long, the outer equal to the middle one.

The *female* resembles the male, but is smaller, and the plumage browner. Scapulars very narrowly edged with broccoli-brown. No white mark beneath the eye, but the speculum like that of the male. Bill black, slightly inflated at the base, the nail black. — The *young males* resemble the female, but have small white spots before and behind the eyes.

AMERICAN SCOTER DUCK.

(*Fuligula americana. Oidemia americana*, Swains. Richard. and Swains. North. Zool. ii. p. 450. Whistling Duck, Hudson's Bay Residents. *Cuscusitatum*, Cree Indians.)

Sp. Charact. — Entirely sooty black; bill contracted behind the tip, black, except the basal protuberance of the upper mandible, which is entirely orange; nostrils about the middle of the bill, red.

This species, probably confounded with the Common Scoter, is said to inhabit the shores of Hudson's Bay, breeding between the 50th and 60th parallels, but does not appear to frequent the interior. It lives and feeds principally at sea, and its flesh is rank and oily. The American Scoter visits the coast and bays of Massachusetts and New York in considerable numbers, associating with the Surf, Velvet, Eider and other sea ducks; and are brought occasionally to Boston market, about the first week in November. While here they appear to feed principally on shell-fish; particularly muscles; and the flesh of the young is tolerably palatable.

The American Scoter is about 19 inches in length; bill from the rictus 2 inches; the wing 8½ inches; tarsus about 1 inch 2 lines; the middle toe 3 inches. *Male* in color and size closely resembling *F. nigra*, except in the bill, in which the sides of the nail at the end of the upper mandible are suddenly narrowed. The whole of the basal protuberance orange, this color not extending beyond the nostrils. In a youngish *male*, which I have examined, the basal protuberance is scarcely elevated, orange, at the base bright yellow. The 1st quill very much and suddenly narrowed for near upon 2 inches, and the 2d and 3d nearly equal and longest. Legs and feet wholly black.

SCOTER DUCK.

(*Fuligula nigra*, Bonap. Synops. No. 334. *Anas nigra*, Linn. Gmel. sp. 7. Lath. Ind. ii. sp. 43. Temm. ii. p. 856. Wilson. viii. p. 135. pl. 72. fig. 2. *La Macreuse*, Buff. Ois. ix. p. 234. t. 16. Pl. Enlum. 978. Scoter, Penn. Arct. Zool. No. 484. Ib. Brit. Zool. p. 153. tab. Q. 6. [a good figure of the male]. Phil. Museum, No. 2658.)

Sp. Charact. — No speculum; feet dusky; a protuberance at the base of the bill; middle of the upper mandible yellow; nostrils below the middle of the bill. — *Male* glossy black; a large orange-red protuberance at the base of the bill. *Female* sooty-brown, beneath greyish-white

The Scoter, or Black Duck is another of those marine species which inhabit the high boreal latitudes of both continents, from whence at the approach of winter they migrate in swarms to warmer or more moderate climes. Along the coast of the United States, over which they extend to the extremity of the Union, they are commonly associated with their kindred species, the Velvet Duck. In winter they are common in the sounds and bays in the vicinity of New York as well as in the Bay of Chesapeake, and are perpetually

diving in quest of small shell-fish, sea insects, mollusca and marine vegetables.

The Scoters, whose origin, like that of the Barnacles, was supposed to be derived from certain shells in rotten wood originating in Scotland, have hence derived their peculiar name; but besides the Scottish Islands, they are found in Lapland, Norway, Russia and Siberia, as well as in the present continent. They usually fly low, almost touching the surface of the sea, but they swim and dive with peculiar ease and swiftness.

According to M. Baillon, from the months of November to March, the north and north-west winds bring along the coasts of Picardy prodigious flocks of Scoters, so that the whole sea for a considerable space appears covered with them. They are then seen flying incessantly from place to place by thousands; they appear and disappear in the water every minute, and as soon as one of them dives, the whole eager troop imitate the motion, and soon after emerge to the surface. When the southwardly winds, however, begin to blow in the month of March, they all disappear at once from the coast.

The fishermen, taking advantage of their habit of diving for food, catch the Scoters in great numbers in their nets, which are spread out over the beds of shell-fish they are observed to frequent. The nets are thus supported horizontally at the height of two or three feet from the bottom; and at the flowing of the tide remain concealed. The Scoters, approaching as usual at the reflux of the water in great numbers, dive after their prey, and are soon entangled in the snare; in such numbers that 20 or 30 dozen have sometimes been taken in a single tide. These fishy flavored birds, and a few others of similar character, being exempt from the ecclesiastical interdict, on the sage supposition that they rank among cold-blooded animals, are sold

to the catholics, who are allowed to eat them on their fast days, in common with fish and white meats.

The Scoter is about 21 inches in length; and 34 in alar extent. Protuberance on the base of the bill orange-red, the sides and a line in its middle black, the orange extending over the upper mandible considerably towards the tip; the edges and lower mandible are black. The orbits yellow. Irids dark hazel. The whole plumage black, inclining to purple on the head and neck. Legs and feet reddish-brown. The *female* has scarcely any protuberance on the bill.

Subgenus. — * Gymnura. (Oxyura †. *Bonap.*)

The *bill* broad at its extremity, and with the nail very small and hooked. *Nostrils* medial, proximate. Tarsus much shorter than the elongated toes; the legs situated very far behind. Wings very short and concave. Tail long and cuneiform, consisting of 20 narrow, pointed, rigid, and more or less concave feathers: the tail coverts wholly wanting, or undistinguishable from the adjoining plumage. Vent at the extremity of the body.

The plumage sombre, very thick, compact, beneath silvery with bristly tips. — This small and remarkable species bred in the north, chiefly inhabits fresh-water lakes in which it swims and dives remarkably well, but is averse to taking wing, yet migrates extensively towards the south in the course of the winter. It is nearly allied to *Anas leucocephala*, which inhabits the saline lakes and interior seas of Siberia, Russia and Eastern Europe. It appears likewise to have a near affinity with *A. jamaicensis* of Latham; and is perhaps identic with *A. spinosa* of Guiana, if not also with *A. Dominica* of Gmelin, a native of St. Domingo, and probably only resident there during winter.

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† The name of *Oxyura* having been previously employed for a subgenus of Creepers, it was necessary to alter it.

RUDDY DUCK.

(*Fuligula rubida*, Bonap. Synops. No. 336. Richard. and Swains. North. Zool. ii. p. 455. *Anas rubida*, Wilson. viii. p. 128. pl. 71. fig. 5. [male.] p. 130. pl. 71. fig. 6. [young male.] (female *Wils.*) Phil. Museum, No. 2808. and 2809.)

Sp. Charact. — No speculum; bill flat at the base; nostrils small and linear; tail-feathers somewhat concave, with sphacelous tips. Iris brown. — *Male* reddish-brown; the crown, front and nape black; sides of the head and chin white. *Female* blackish-brown, minutely sprinkled with whitish; the crown darker; sides of the head dusky and whitish.

This species, an exclusive inhabitant of America, retires to the north to breed, frequenting the small lakes in the interior of the fur countries up to the 58th parallel. On the 5th of August, they were also observed by Mr. Say, at Pembino in the latitude of 49°, where no doubt, they also pass the period of reproduction. They are very unwilling to take wing, though they fly pretty well when once started. They dive with the greatest facility and particularly at the flash of the gun, or even the report of the percussion cap. When swimming they have a habit of carrying the tail so erect that it appears of the same height with the head and neck. Small flocks consisting of the female and young are often seen in Fresh-Pond in this vicinity, but scarcely ever the adult males, who seem to migrate usually apart at this season. They visit us early in October, and in the course of the winter proceed south to the extremity of the Union. On their first arrival they are tame and insuspicious: but the old males are extremely shy and difficult of approach. Their food appears to be principally marine and fluviatile vegetables, and seeds, for which they dive. Besides gravel, I have found in the stomach seeds and husks of the *Ruppia maritima*. They rarely, if ever, visit the sea, but are

found towards the head of tide waters, in estuaries and small lacustrine ponds, at no great distance from the ocean. They are common in the market of Boston, generally known by the name of Dun-Birds, and their flesh is good and much esteemed as game.

The length of this species appears to vary in an extraordinary degree. Wilson gives it 15½ inches; I have found it about 17, and Richardson's measurement gives 19 inches! the tarsus 1 inch 4 lines; middle toe 2 inches and 4 lines. In the *male* the upper surface of the head and nape is velvet-black. The middle of the back and tail brownish-black. Throat, neck, fore part of the back, rump, scapulars, and flanks, pure brownish-orange. The sides of the head and chin white. Wings unspotted hair-brown, the secondaries tipped with white. Base of the under plumage clove-brown, its tips silvery white. Bill shining light blue. Irids brown. Legs brown. Nostrils near together, situated in the anterior part of a large oval membrane. Tail wedge-formed or fan-shaped, of 20 narrow and strikingly unequal feathers in length, the shortest being only about an inch, while the longest are 3 inches, or upwards, their points in the adult birds, present a sphacelous continuation of the shafts beyond the barbs, which terminate bluntly, and are concave beneath: the hollow or guttered appearance of the feathers themselves above is nearly equal throughout, and only very *conspicuous in the young birds*, or immediately after the moult; in these likewise the sphacelous tips of the tail are yet undeveloped. In an old female, which I possess, the sphacelous tips of the tail are prolonged into a set of additional proliferous feathers with bristly and nearly simple distant setaceous barbs. Whether this character be constant at a certain age or not I am unable to determine. — The young *male* resembles the female, but differs in having the sides of the face pure white to beyond and beneath the ears. A few rufous feathers are also sometimes already visible among the plumage on the lower part of the back. The smaller tail feathers, being probably subject to moult, accounts for the apparent diversity of their number. Wilson and Bonaparte giving 18, and Richardson only 16, while the actual number is 20.

Subgenus. — Fuligula. *Bonap.*

With the bill long, broad, flat, scarcely gibbous at base, and somewhat dilated at the extremity. Nostrils suboval, at the base of the bill. The tail short consisting of 14 feathers, the lateral ones graduated. The first quill feather longest.

The trachea dilating to the left into a somewhat membranous capsule, sustained by an osseous ramified frame work. — These are also chiefly inhabitants of the sea or saline bays and estuaries.

PIED DUCK.

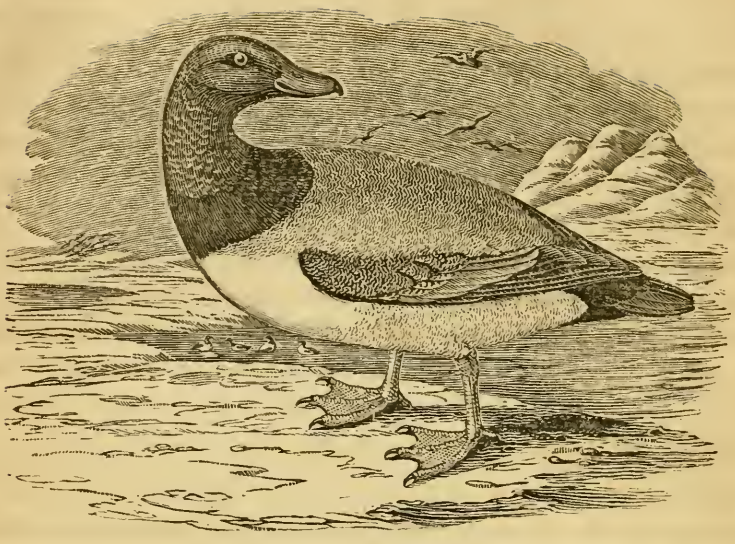
(*Fuligula labradora*, Bonap. Synops. No. 337. *Anas labradora*, Wilson. viii. p. 91. pl. 69. fig. 6. [male.] Pied Duck, Penn. Arct. Zool. ii. p. 282. No. 488. Lath. Synops. iii. p. 497. Phil. Museum, No. 2858.)

Sp. Charact. — A broad white speculum; the bill membranous at the extremity; the cere-like base and posterior edges orange colored. — *Male* black; head, neck, breast, scapulars, wing-coverts and secondaries, white; crown, and a collar round the neck, black. *Female* ashy-grey.

The Pied Duck, though an inhabitant of the northern parts of America, is not found in the fur countries of Hudson's Bay. It is probably a mere straggler on the coasts of the whole Atlantic, and chiefly inhabits the western side of the continent. It was not observed by Mr. Audubon in his late summer tour to Labrador where it has been said to breed. The gunners of New Jersey and Pennsylvania call it the Sand-Shoal Duck, from its habit of frequenting sand-bars in quest of minute shell-fish which constitute its principal food, and which it procures by diving like the other Sea Ducks. Its visits occur in the Middle States in winter, and early in the month of March, in spring. Its flesh is dry and unsavory.

The length of the Labrador Duck is about 20 inches. In the *male* the base of the bill, and the edges of the mandibles for two thirds of their length, are pale orange ; the rest black ; towards the extremity it widens, and the sides consist merely of a soft, loose and pendulous skin. Irids dark hazel. Head and half of the neck, white, marked along the crown as far as the nape with a stripe of black ; the plumage of the cheeks bristly. A black collar round the neck, the same color continuing over the back, rump, and tail coverts ; below this color the upper part of the breast is white, extending itself over the whole scapulars, wing coverts, and secondaries. The primaries, lower part of the breast, belly, and vent, black. The tail pointed, and of a blackish hoary color. Anterior part of the legs, and ridges of the toes, pale whitish-ash, hind part of the same, sprinkled with blackish ; the webs black : the edges of both mandibles pectinated. In *young* birds, the white plumage is usually tinged with yellowish.

The *female* is about 19 inches in length. The bill as in the male. The sides of the front white ; head, chin, and neck, ashy-grey ; upper part of the back and wings brownish-slate. Secondaries only white ; tertials hoary. Below dull ash, skirted with brownish-white. Legs and feet as in the male. The bill in both is marked posterior to the nostrils with a heart-shaped outline.



CANVASS-BACKED DUCK.

(*Fuligula valisneria*, Stephens. Bonap. Synops. No. 338. Rich. and Swain. ii. p. 451. *Anas valisneria*, Wilson. viii. p. 103. pl. 70. fig. 5. Genus *Fuligula*, Ray. Phil. Museum. No. 2816.)

p. Charact. — Speculum grey; bill straight, nearly 2½ inches long, its sides parallel. — *Male* white, waved with black; the head tinged with black anteriorly, and with the neck glossy chestnut: a black pectoral belt. *Female* dull whitish, waved with black; head, neck and breast brownish.

The Canvass-Back, so well known as a delicacy of the table, is a species peculiar to the continent of America. It breeds, according to Richardson, in all parts of the remote fur countries from the 50th parallel to their most northern limits, and at this period associates much on the water with the ordinary tribe of Ducks. After the close of the period of reproduction, accumulating in flocks, and driven to the open waters of the south for their favorite means of sub-

sistence, they arrive about the middle of October seawards on the coast of the United States. A few at this time visit the Hudson and the Delaware, but the great body of emigrants take up their quarters in the Bay of Chesapeake, and in the numerous estuaries and principal rivers which empty into it; particularly the Susquehannah, the Patapsco, Potomac and James' rivers. They also frequent the sounds and bays of North Carolina, and are abundant in the river Neuse, in the vicinity of Newbern, and probably in most of the other southern waters to the coast of the Gulf of Mexico, being seen in winter in the mild climate of New Orleans.* In these different sections of the Union they are known by the various names of Canvass-Backs, White-Backs, and Sheldrakes. In the depth of winter, a few pairs, probably driven from the interior by cold, arrive in Massachusetts Bay, in the vicinity of Cohasset and near Martha's Vineyard: these, as in the waters of New York, are commonly associated with the Red-Head, or Pochard, to which they have so near an affinity. Their principal food, instead of the fresh-water plant *Valisneria,* which is confined to so small a space, is, in fact, the different kinds of Sea-Wrack, known here by the name of Eel-grass, from its prodigious length, (*Zostera marina,* and *Ruppia maritima.)* These vegetables are found in nearly every part of the Atlantic, growing like submerged fields over all the muddy flats, shallow bays, estuaries, and inlets, subject to the access of salt or brackish waters. They are the marine pastures in which most of the Sea Ducks, no less than the present, find at all times, except in severe frosts, an ample supply of food.

The Canvass Backs on their first arrival are generally lean, but by the beginning of November, they become in

* Mr. Ware, on the authority of Mr. C. Pickering, M. D.

good order for the table. They are excellent divers, and swim with speed and agility. They sometimes assemble by thousands in a flock, and rising suddenly on wing produce a noise like thunder. During the day, they are commonly dispersed about in quest of food, but towards evening collect together, and coming into the creeks and river inlets, ride as it were at anchor, with their heads under their wings asleep; sentinels, however, appear awake and ready to raise an alarm on the least appearance of danger. At other times they are seen swimming about the shoals, and diving after the sea-wrack, which they commonly pluck up, and select only the tenderest portion towards the root. Though thus laboriously engaged, they are still extremely shy, and can rarely be approached but by stratagem, for even while feeding, several remain unemployed and vigilant against any surprise. When wounded in the wing they dive to prodigious distances, and with such rapidity, and perseverance as almost to render the pursuit hopeless. The great demand and high estimation in which these Ducks are held, spurs the ingenuity of the gunner to practise every expedient which may promise success in their capture. They are sometimes decoyed to shore or within gun-shot by means of a dog trained for the purpose, which, playing backwards and forwards along the shore, attracts the vacant curiosity of the birds, and as they approach within a suitable distance the concealed fowler rakes them first on the water, and afterwards as they rise. Sometimes by moonlight the sportsman directs his skiff towards a flock, whose position he had previously ascertained, and keeping within the projecting shadow of some wood, bank, or headland, he paddles silently along to within 15 or 20 yards of a flock of many thousands, among whom he consequently makes great destruction.

As the severity of the winter augments, and the rivers

become extensively frozen, the Canvass-Backs retreat towards the ocean, and are then seen in the shallow bays which still remain open; occasionally also frequenting the air holes in the ice, and openings which are sometimes made for the purpose, immediately over the beds of sea grass, to entice them within gun-shot of the hut or bush fixed at a convenient distance for commanding the hungry flocks. So urgent sometimes are the Ducks for food in winter, that at one of these artificial openings in the ice, in James' river, a Mr. Hill, according to Wilson, accompanied by a second person, picked up from one of these decoys, at three rounds each, no less than 88 Canvass-Backs. The Ducks crowded to the place, so that the whole open space was not only covered with them, but vast numbers, waiting their turn, stood inactive on the ice around it.

The Canvass-Back will also eat seeds and grain as well as marine grass, and seems especially fond of wheat, by which they may be decoyed to particular places, after continuing the bait for several days in succession. The loss of a vessel loaded with this grain, near the entrance of Great Egg Harbor in New Jersey, attracted vast flocks of these ducks to the spot, so that not less than 240 were killed in one day by the neighboring gunners, who assembled to the spot in quest of these strange birds, which were afterwards sold among the neighbors at the low rate of $12\frac{1}{2}$ cents a piece, without the feathers. These Sea-Ducks, as the gunners then called them, from the direction probably in which they arrived, were no other than the famous Canvass-Backs, which commonly sold in the Philadelphia market at from one dollar to a dollar and a half per pair, and indeed sometimes much higher prices are given, when they are scarce and considered indispensable.

The Canvass-Back is about 2 feet in length, and 3 feet in alar extent; and when in good order weighs 3 pounds. The bill is large,

rising high and sloping on the front, 2 inches 4 lines measured from above; and 1 inch and $\frac{3}{8}$ths thick at the base; the frontal angle longer, the nostrils farther from the front, and the nail differently shaped and smaller than in the Pochard. In the *male*, the region of the bill, top of the head, chin, base of the neck, and adjoining parts of the breast and back, rump, upper and under tail coverts, are pitch-black. Sides of the head and the neck, bright glossy reddish-chestnut with violet reflections on the head. Middle of the back, scapulars, wing-coverts, tips of the secondaries, tertiaries, flanks, posterior part of the belly, and thighs greyish-white, finely waved with hair-brown. Primaries and their coverts hair-brown, darker on their tips; secondaries ash-grey, tipped with white; the two adjoining tertiaries edged with black. Belly white, faintly undulated on the medial line. In some specimens the white parts are glossed with ferruginous. Bill and Legs blackish-brown.

In the *female*, the ground color of the upper plumage and flanks is liver-brown. Sides of the head, neck, and breast ferruginous. Shoulders, shorter scapulars, and under plumage edged with the same, middle of the back and wing coverts clove-brown, finely undulated with greyish-white. No waved markings on the tertiaries and secondaries, and only a few on the tips of the scapulars. Bill as in the male; but the neck more slender.

POCHARD, OR RED-HEADED DUCK.

(*Fuligula ferina*, STEPHENS. BONAP. Synops. No. 339. RICH. and SWAINS. North. Zool. ii. p. 452. *Anas ferina*, LIN. GMEL. sp 31. LATH. Ind. sp. 77. TEMM. Man. d'Orn. ii. p. 868. WILSON, viii. p. 110. pl. 70. fig. 6. Pochard Duck, PENN. Arct. Zool. ii. p. 284. No. 491. IBID. Brit. Zool. p. 156. t. Q. 5. [male and female.] *Le Canard Milouin*, BUFF. Ois. ix. p. 216. Pl. Enlum. 803. [male.] *Fuligula*, sp. RAY. Phil. Museum. No. 2710.)

SP. CHARACT. — Speculum grey; bill rather recurved, about 2 inches long, dilated at the extremity. — *Male* ash, thickly waved with black lines; head and anterior part of the neck only, wholly chestnut; a broad black pectoral belt. *Female* wholly brown of various tints.

The Pochard so nearly related to the Canvass-Back, with which it generally associates, is common to the north of both continents. It is abundant in Russia, in rivers and lakes in all latitudes, as well as in Denmark, the north of Germany, and, as a bird of passage, is seen in England, Holland, France, Italy, and in the course of the winter proceeds as far south as Egypt. In the present continent they are found to breed in all parts of the fur countries, from the 50th parallel to their utmost boreal limits, and, dwelling in fresh waters, are seen to associate generally with the Anatinæ, or proper Ducks, taking to the sea in autumn with their broods, and appearing within the limits of the United States towards the close of October; they afterwards spread themselves over the bays, rivers and fresh-water lakes, at no great distance from the sea. In the bay of Chesapeake and its tributary streams they are now seen in flocks with the Canvass-Backs, and feed much on the same kind of submarine grass or wrack-weed, on which they become very fat, and are in flavor and size but little inferior to their companions; being often in fact, both sold and eaten for the same, without the aid of any very sensible imposition. In the months of February and March they are common in the fresh waters of North and South Carolina, where many pass the greater part of the winter; they are also seen at this season in the lower part of the Mississippi, around Natchez, and probably accompany the flocks of the preceding species near New Orleans. Brisson's Mexican Pochard, described by Fernandez, is also in all probability the same bird.

The Pochard dives and swims with great agility. They are in England sometimes taken in the decoy pools in the usual manner of driving, but are by no means welcome visitors; for by their continual diving they disturb the rest of the fowls on the water, and thus prevent their being en-

ticed into the tunnel nets; nor are they willingly decoyed with the other ducks. They are said to walk awkwardly and with difficulty. It is also added that their cry more resembles the hollow hiss of a serpent, than the voice of a bird. Their flight is more rapid than that of the Common Wild Duck, and the noise of their wings very different. The troop forms a close body in the air, but they do not proceed in angular lines, or obey any particular leader, nor have they any call sufficient for the purpose. On their first arrival they are restless and watchful, alighting on the water, and then again wheeling and reconnoitering in the air for some time uncertain in the choice of their movements. The only time when they can be approached within gun-shot, like so many other of the species, is about day-break from an ambush or the shelter of some concealment.

In the London markets these Ducks are sold under the name of Dun-Birds, and are very deservedly esteemed as a delicate and well flavored game.

Although it has has been said that this species will not live in confinement; Mr. Rennie states, that no bird appears sooner reconciled to the menagerie; and one in his possession which had been badly wounded in the wing, took immediately to feeding on oats, and after three years confinement appeared very tame, and remained in good health.

According to Temminck they nest in reed marshes, laying from 12 to 13 greenish-white eggs.

The Pochard is about 22 inches in length, sometimes less; the wing 9 inches; the bill above, about 2 inches long; the tarsus 1 inch 7½ lines. In the *male*, the head and neck appears very full of feathers and of a deep glossy reddish-chestnut; the base of the neck, breast, fore part of the back, rump, and upper and under tail coverts, pitch-black. Scapulars, interscapulars, flanks, thighs, and vent, finely undulated with white and clove-brown. Belly whitish, with faint lines. Posterior part of the back blackish-brown, partially

waved with grey lines. Wings hair-brown; the secondaries bluish-grey, narrowly tipped with white, and the two adjoining tertiaries edged with black; axillary feathers and under coverts pure white. Bill; upper mandible light blue; its tip, a narrow belt round its base, and the under mandible, black. Legs black.

The *female* is liver-brown above, with pale edgings. Forehead, base of the neck, sides of the breast, and flanks, chestnut, edged with yellowish-brown. Chin, throat, and fore part of the belly, greyish-white. Wings, bill, and legs as in the male.

SCAUP DUCK.

(*Fuligula marila*, Stephens. Bonap. Synops. No. 340. Richard. North. Zool. ii. p. 453. *Anas marila*, Linn. Faun. Suec. No. 111. Lath. Ind. sp. 54. Temm. Man. d'Orn. ii. p. 865. Wilson, viii. p. 84. pl. 69. fig. 3. *Le Milouinan*, Buff. Pl. Enlum. 1002. [the old.] Scaup Duck, Penn. Arct. Zool. ii. No. 498. Ibid. Brit. Zool. p. 153. t. Q. *Fuligula*, sp. Ray, Phil. Museum, No. 2668.)

Sp. Charact. — Speculum white: bill very broad; no crest. — *Male* glossy black, scapulars waved with white. *Female* brown, near the bill whitish.

This species, better known in America by the name of the Blue Bill, is another general inhabitant of the whole northern hemisphere; passing the period of reproduction in the remote and desolate hyperboreal regions, from whence at the approach of winter, they issue over the temperate parts of Europe as far as France and Switzerland; and in the United States are observed to winter in the Delaware, and probably proceed as far as the waters of the Southern States, having been seen in the lower part of Missouri by Mr. Say in the spring, and are abundant also in winter in the Mississippi around and below St. Louis. Their breeding places, according to the intelligent and indefatigable Rich-

ardson, are in the remote fur countries from the most southern point of Hudson's Bay to their utmost northern limits.

The present species is said to derive its name from feeding on scaup, or broken shell-fish, for which, and other articles of subsistence, such as marine insects, fry, and marine vegetables, it is often seen diving with great alertness. It is a common species here both in fresh waters and bays. They particularly frequent such places as abound in their usual fare, and like most of their tribe take advantage of the accommodation of moonlight. They leave the Middle States in April or early in May.

Both male and female of the Scaup make a similar grunting noise, and have the same singular toss of the head, with an opening of the bill when sporting on the water in the spring. While here, they are heard occasionally to utter a guttural *quanck*, very different from that of Common Ducks. In a state of domestication, during the summer months, when the larvæ of various insects are to be found in the mud at the bottom of the pond they frequent, they are observed to be almost continually diving. They feed, however, contentedly on barley, and become so tame as to come to the edge of the water for a morsel of bread. Mr. Rennie adds, of all the aquatic birds we have had, taken from their native wilds, none have appeared so familiar as the Scaup. The flesh of this species is but little esteemed; though the young are more tender and palatable.

In Europe the species is found as high as Iceland; and in the summer they abound in Russia, Sweden, Norway and Lapland. It is also common on the northern shores of Siberia, and particularly on the great river Ob.

The Scaup varies in size from 16½ to 18, 19, or 20 inches in length! the bill above, from 1 inch 6½ lines, to 1 inch 9½; the tarsus from 1 inch 4 lines, to 1 inch 6. In the *male* the head and upper

part of the neck is black, reflecting deep violet and green. Lower part of the neck, posterior part of the back, the breast, and under tail coverts pitch-black. Scapulars and interscapulars greyish-white, rather coarsely undulated with black. Wings hair-brown, the primaries paler in the middle; the secondaries white, with brown tips; the tertiaries glossed with green; and the lesser coverts and inner tertiaries finely dotted or waved with white. Belly white, mixed with grey posteriorly; flanks pure white, the tips of the feathers slightly undulated. Long axillaries and inner wing linings pure white. Bill greyish-blue. Irids yellow. Legs blackish-brown.

The *female* is somewhat smaller, with a wide white band round the base of the bill, the remainder of the head and neck blackish-brown. Lower part of the neck, breast and rump dark brown. Back and scapulars waved with black and white aproximating zig-zag lines: the flanks spotted and waved with brown. The iris dull yellow. The *young males* in a general way resemble the females.

RING-NECKED DUCK.

(*Fuligula rufitorques*, Bonap. Synops. No. 341. Rich. and Swains. North. Zool. ii. p. 454. Tufted Duck, (*Anas fuligula,*) Wilson, viii. p. 60. pl. 67. fig 5. *Anas rufitorques*, Bonap. Phil. Museum, No. 2904.)

Sp. Charact. — Speculum bluish-ash; chin white; a bluish-white band across the bill: no crest. — *Male* black, belly white, the sides waved with grey; a chestnut collar on the neck. *Female* glossy-brownish, face and belly white.

The Ring-Necked Duck, allied to the Scaup more nearly than to the Tufted Duck of Europe, is an exclusive, but not uncommon inhabitant of North America, being frequently seen in our fresh-water lakes, estuaries and rivers at the commencement of winter, and many proceed, no doubt, with others as far as the Southern States, before the arrival of spring. They also breed in the remote fur countries of Hudson's Bay, where they were seen by Dr. Richardson to the extent of their range, and particularly in the Saskatche-

wan and other fresh waters of the interior in the hyperborean wilderness. Indeed it commonly associates in the summer with the true Ducks, and only frequents the sea coast at the period of its migrations. Their flesh is tender and well flavored.

The length of the species is about 19 inches; the wing 7 inches 3 lines; the bill from above 1 inch 10 lines; the tarsus 1 inch 4 lines. — In the *male* the head and greater part of the neck is greenish-black, reflecting deep violet-purple. Beneath with a dark chestnut-brown collar. Base of the neck, whole dorsal plumage, tertiaries, greater coverts, breast, vent, and under tail coverts, greenish-black: lesser coverts, primaries, and tail, blackish-brown. Secondaries pearl-grey, narrowly tipped with white. Belly white, from which there is a crescent-shaped curve to the shoulder; flanks and posterior part of the belly finely waved with blackish-brown. Bill black; rictus, line round the base, and belt near the tip of the upper mandible, light blue. Irids deep yellow. Legs blackish-brown. Closed wings 3 inches shorter than the tail.

In the *female* the upper plumage is dark brown, edged on the top of the head, shoulders, scapulars and breast, with chestnut. Sides of the breast and flanks unmixed dark chestnut. Speculum as in the male. Region of the bill, throat, and belly, greyish-white, speckled with brown. Posterior part of the belly liver-brown. The greater extent of the flattened triangular part of the bill next the front serves to distinguish the female of this species from that of the Scaup.

In the *young male* a year old, the belly is more clouded, the upper plumage wants the chestnut tints, has a darker color than in the female, and the brown of the collar is not formed.

Subgenus. — Clangula. *Bonap.* (Genus of, *Boie.*)

With the *bill* short, narrow and elevated at the base, somewhat attenuated at the extremity. *Nostrils* suboval, somewhat anterior to or near the middle of the bill. Tail rather long, mostly composed of 16 feathers.

This tribe of Sea Ducks reside generally in high northern latitudes.

COMMON GOLDEN EYE.

(*Fuligula clangula*, Bonap. Synops. No. 342. *Clangula vulgaris*, Leach. Fleming. Rich. and Swains. North. Zool. ii. p. 456. *Anas clangula*, Linn. Lath. Ind. ii. sp. 87. Temm. ii. p. 870. Wilson, viii. p. 62. pl. 67. fig. 6. [male.] Golden Eye, Penn. Arct. Zool. No. 486. Ib. Brit. Zool. p. 154. t. Q. [male and female.] Ibid. *Morillon*, (*Anas glaucion,*) ii. p. 300. *F.* [young.] *Le Garrot.* Buff. Ois. ix. p. 222. Pl. Enlum. 802. *Clangula*, Gesner. Johnst. and Klein. [male.] Phil Museum, No. 2921.)

Sp. Charact. — Speculum white; under wing coverts black; tail rounded, of 16 feathers. — *Male* white; back, wings, and tail black, feathers of the head tumid, purplish-green; a roundish white spot on either side near the base of the bill. *Female* cinereous; beneath white; head and adjoining part of the neck umber-brown, and without the white spot on the face.

The Golden Eye is a common inhabitant of the boreal regions of both continents, from whence it migrates in small flocks at the approach of winter, accompanying the Velvet, Surf Duck, and Scoter, in their desultory route in quest of subsistence. On their way, soon after the commencement of their adventurous voyage, they visit the shores of Hudson's Bay, and their congenial lakes in the interior, on which they linger, feeding on tender and small shell-fish, until debarred by the invasion of frost. They breed in all parts of the desolate and remote fur countries in great numbers, frequenting the rivers and fresh-water lakes, on whose borders they pass the period of reproduction, making a rude nest of grass, and protecting the necessary warmth of their eggs by a layer of feathers or down plucked from the breast. According to Linnæus it lays from 7 to 10 white eggs, which it often conceals and protects with its nest in hollow trees. And Skiöldebrand adds, that in common with the Velvet Duck, it breeds abundantly in Lapland, on the banks of the

Tornea, within the Arctic circle, and nearly to the northern extremity of Europe. The inhabitants, for the value of the eggs, take the trouble to accommodate these useful and almost domestic birds, by attaching hollowed pieces of wood to the stunted Pine trees in which they ordinarily breed. They extend their summer residence as far as Northern Asia and Greenland, yet in Europe some pairs are observed to propagate even in temperate countries.

Although furnished with a remarkably complicated trachea in the male, and the name of *Clangula*, we cannot learn that they ever possess any audible voice. When flushed they rise in silence, and we then only hear, instead of a cry or a quack, the very perceptible and noisy whistling of their short and laboring wings, for which reason they are here sometimes called by our gunners the Brass-Eyed Whistlers. In their native haunts they are by no means shy, allowing the sportsman to make a near approach, as if conscious at the same time of their impunity from ordinary peril, for no sooner do they perceive the flash of the gun, or hear the twang of the bow, than they dive with a dexterity which sets the sportsman at defiance, and they continue it so long and with such remarkable success that the aboriginal natives have nick-named them as conjuring or 'Spirit Ducks.'

The food of the Golden Eye, for which they are often seen diving, consists of shell-fish, fry, small reptiles, insects, small crustacea, and tender marine plants. In and near fresh waters they feed on fluviatile vegetables, such as the roots of *Equisetums*, and the seeds of some species of *Polygonum*. Their flesh, particularly that of the young, is generally well flavored, though inferior to that of several other kinds of Ducks.

In Europe, they descend in their migrations to the south along the coasts of the ocean, as far as Italy, where they are

known by the name of *Quattr' Occhi*, or four eyes, from the two round and white spots placed near the corners of the bill, which at a distance give almost the appearance of two additional eyes. They likewise pass into the central parts of the continent and visit the great lakes of Switzerland. They are equally common, at the same season, in most parts of the United States, as far probably as the extremity of the Union, and early in spring they are again seen in Missouri and on the wide bosom of the Mississippi, preparing to depart for their natal regions in the north. Though they fly with vigor, from the shortness of their legs and the ampleness of the webs of their feet, the Clangulas walk badly and with pain; they advance only by jerks, and strike the ground so strongly with their broad feet, that each step produces a noise like the slapping of the hands; the wings are also extended to retain an equilibrium, and if hurried, the awkward bird falls on its breast, and stretches its feet out behind. Born only for the water, the Golden Eye, except in the season of propagation, seldom quits it, but for to dry itself awhile in the air, and immediately after returns to its natural element.

The Common Golden Eye, would appear from various authorities to vary from 19 to 22½ inches! With this larger size in the *male*, the wing is said to be 9 inches long: the bill above, about 1½ inches, and the tarsus exactly the same length. — The head and two inches of the neck is brilliant duck-green. Forehead and chin blackish-brown. The back, long scapulars, coverts bordering the wing, primaries, 4 outer secondaries, and the tertiaries, pitch-black. A round spot beneath the lores, lower part of the neck, shoulders, outer scapulars, intermediate and greater coverts, 7 posterior secondaries, and the whole under plumage pure white, except the deep black edges of the long flank feathers, and the space round the thighs, which, with the tail, are broccoli-brown. Bill black, high at the base, narrowed towards the point. Feet orange. Irids golden-yellow. Head large; forehead high; occipital plumage lengthened. Wings acute, 2½ inches shorter than the tail. 1st and 2d quills subequal and longest.

Toes long. The *female* resembles that of the following species, differing only in the form of the bill. In the *young of the year* the white space on the side of the bill begins to appear, and the feathers of the head are black without reflections. — In the *male*, the trachea, about its middle swells out to 4 times its common diameter; three inches below this enlargement it enters the labyrinth, which is about the size of a walnut and of a structure almost too complicated for description; for a figure of it see Lin. *Transact.* iv. pl. 15. fig. 1, 2.

ROCKY MOUNTAIN GOLDEN EYE.

(*Fuligula Barrovii. Clangula Barrovii*, Rich. and Swains. North. Zool. ii. p. 456. plate. 70.)

Sp. Charact. — Head and upper part of the neck pansey-purple, with a large white crescent before each eye; the white speculum separated from the band on the coverts by a black stripe. — *Female*, as in the preceding; but the bill, as in the male also, is shorter and narrower towards the point.

The habits of this species, so nearly related to the preceding, are said to be wholly similar. It has hitherto been found only in the valleys of the Rocky Mountains. Besides the permanent difference in the bill, this species is further distinguished by the purer color of its dorsal plumage, and the smaller portion of white on its wing and scapulars. Its long flank feathers are also much more broadly bordered all round with black.

Length of the species 22½ inches; the wing 9½ inches; the bill above, 1 inch 4 lines; the tarsus 1 inch 7 lines; the middle and outer toe each 2½ inches long. — In the *male*, the head and two inches of the neck are bright pansey-purple, with a greenish reflection on the ears. Forehead and chin brownish-black. Dorsal plumage, wings, and broad tips of the long flank feathers, mostly velvet-black. The crescent-shaped patch from the rictus to the sides of the forehead, lower part of the neck, shoulders, tips of the outer scapulars, lower row of lesser coverts, tips of the greater coverts, 6 secondaries and

the under plumage, pure white. Space round the thighs, the tail, and its lateral under coverts, broccoli-brown. Bill blackish. Legs orange; webs black. — The feathers of the forehead terminate on the bill in a semicircular outline. The plumage of the occiput and nape, longer than in the Common Golden Eye, and forming a more decided crest. Wings 2½ inches shorter than the tail.

In the *female*, the head and adjoining part of the neck are umber-brown, and without any white mark. Dorsal plumage pitch-black; its anterior part, particularly the shoulders and the base of the neck all round, edged with ash-grey. A white collar round the middle of the neck. Flanks clove-brown, edged with white. Intermediate coverts blotched with white and black; greater coverts white, tipped with black. Secondaries as in the male. Both mandibles orange at the point, their tips and posterior points black. Feet as in the male.

SPIRIT DUCK.

(*Fuligula albeola*, Bonap. Synops. No. 343. *Clangula albeola*, Rich. and Swains. North. Zool. ii. p. 458. *Anas albeola*, Linn. Forster, Phil. Trans. lxii. p. 416. No. 47. Spirit Duck, (*A. albeola,*) Penn. Arct. Zool. ii. No. 487. Buffel Duck, (*Anas bucephala,*) Lin. Penn. ii. No. 489. Buffel-headed Duck, (*Anas albeola,*) Wilson, viii. p. 51. pl. 67. fig. 2. [male.] fig. 3. [female.] The little Black and White Duck, Edwards. pl. 109. [male.] *Le petit Canard à grosse tête*, Buff. Ois. ix. p. 249. Pl Enlum. 948. Catesby, i. p. 95. Phil. Museum, No. 2730.)

Sp. Charact. — Speculum and under wing coverts white; tail rounded, composed of 16 feathers. — *Male* varied with black and white; head tumid, green and auricula-purple: a large white space passing over the top of the head to each eye. *Female* sooty black, with a white spot on each side of the head.

This very elegant little Duck, so remarkable for its expertness in diving and disappearing from the sight, is another of these species, like the Golden Eye, to which the aborigines have given the name of Spirit or Conjurer, from the impunity with which it usually escapes at the flash of

the gun or the twang of the bow. In the summer season it is seen abundantly on rivers and fresh-water lakes throughout the fur countries, where they breed, in June, and about Hudson's Bay are said to make their nests in hollow trees, in the woods contiguous to water, a provision of some importance, probably, from the impotent manner in which the birds of this section proceed on the ground. In autumn and winter they are seen almost in every part of the Union, sometimes frequenting the sea shores, but more particularly rivers and lakes. They are observed in Missouri, and on the Mississippi round Natchez. In February they were very abundant in the river Neuse in North Carolina, in the vicinity of Newbern, and dive very dexterously and perseveringly in quest of their food, which is at that time principally fluviatile and submerged vegetables, particularly the sea-wrack; they also sometimes visit the bays and salt marshes in quest of the Laver or *Ulva lactuca*, as well as crustacea and small shell-fish. They are often exceedingly fat, and in Pennsylvania and New Jersey are commonly known by the ridiculous name of Butter-Box or Butter-Ball. Their flesh, however, like that of the preceding, is not in very high request for the table; but the females and young, which are almost the only kinds that visit this part of Massachusetts in winter, are very tender and well flavored.

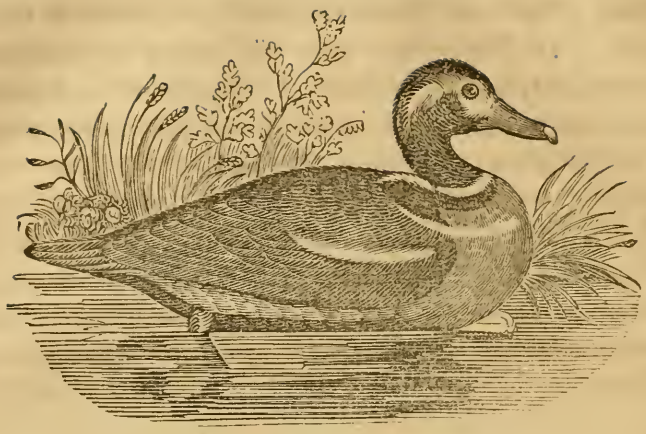
In February, the males are already engaged in jealous contests for the selection of their mates, and they are then seen assembled in small flocks of both sexes. The drake is now heard to *quak*, and repeatedly move his head backward and forward in the frolicksome humor of our domestic Ducks; and about the middle of April or early in May, they have all disappeared on their way to their natal regions in the north.

From their great propensity to diving, they are commonly known in the Carolinas by the name of Dippers; when

wounded or hit with shot, they will often dive or conceal themselves with such art, that they seem as though they had voluntarily buried themselves in the water, and probably often remain wholly submerged to the bill, or disappear in the jaws of a pike.

The length of the Spirit Duck is about 16 inches; the wing 6 inches 8 lines; the bill above, 1 inch 1 line; the tarsus 1 inch 4 lines. In the *male* the forehead, region of the bill, nuchal crest, and upper sides of the neck are of a rich duck-green, blending with the resplendent auricula-purple of the top of the head and throat. The broad band from the eye to the top of the occipital crest, lower half of the neck, the shoulders, exterior scapulars, intermediate and greater coverts, outer webs of 5 or 6 secondaries, flanks, and under plumage to the vent, pure white. Back, long scapulars, and tertiaries, velvet-black: lesser coverts bordering the wing the same, edged with white. Primaries and their coverts brownish-black. Tail coverts blackish-grey; tail broccoli-brown. Vent and under tail coverts greyish. Bill bluish-black. Legs yellowish. Nostrils nearer the base of the bill than in the two preceding *Clangulas*, and the bill also smaller in proportion. Head large, with the upper part of the neck clothed in velvety plumage, rising into a short thick crest. Wings 2½ inches shorter than the tail.

The *female* smaller. Head and dorsal plumage dark blackish-brown. The fore part of the back, scapulars, and tertiaries, edged with yellowish-brown. Fore part of the neck, sides of the breast, flanks, and vent feathers, blackish-grey; breast and belly white, glossed with brownish-orange. The white band on the ears and occiput much narrower than in the male. Lesser coverts and scapulars blackish-brown. Bill and feet brownish. Length 14½ inches —The *young males* resemble the females. Individuals vary much in size.



HARLEQUIN DUCK.

(*Fuligula histrionica*, Bonap. Synops. No. 345. *Clangula histrionica*, Leach. Rich. and Swains. North. Zool. ii. p. 459. *Anas histrionica*, Linn. Forster. Phil. Trans. lxii. p. 419. No. 52. Lath. Ind. sp. 45. Wilson, viii. p. 139. pl. 72. fig. 4. Temm. ii. p. 878. Harlequin Duck, Penn. Arct. Zool. ii. No. 490. Dusky and Spotted Duck, Edwards. pl. 99. [female.] Painted Duck, and Mountain Duck, Hudson's Bay Residents. *Le Canard à collier de Terre Neuve*, Buff. Ois. ix. p. 250. Ib. Pl. Enlum. 798. Phil. Museum, No. . . . . .)

Sp. Charact. — Speculum blue-black; space before the eye and auriculars, white; tail wedge-shaped consisting of 14 pointed feathers; bill narrow, not hooked at the extremity. — *Male*, bluish-plumbeous, varied with black and white; line over the eye and flanks rufous. *Female* greyish-brown, below greyish-white, barred with dull brown; auricular spot, and a small one near the front, white.

This singularly marked and beautiful species is almost a constant resident of the hyperboreal regions of the northern hemisphere, from which it migrates but short distances towards more temperate latitudes, and is as in Europe a rare and almost accidental visiter as far as the Middle States of the Union. It is however more frequent in Eastern Europe up to Greenland; and common from lake Baikal to Kam-

tschatka. Now and then it is killed in Scotland and the Orkneys. Dr. Richardson found it to be a rare bird in the fur countries, haunting eddies under cascades, and rapid streams, where it dwells and breeds apart from all other Ducks. In Kamtschatka it affects the same retired and remarkable romantic situations; like the alpine Cinclus, it seeks out the most rocky and agitated torrents, in such situations it has been seen in the rivulets of Hudson's Bay, as much as 90 miles inland from the sea; here it seeks out its appropriate fare of spawn, shell-fish, and the larvæ of aquatic or fluviatile insects. On the low bushy and shady banks of these streams it constructs its nest, which contains from 12 to 14 pure white eggs. On the margins of fresh-water ponds in Labrador Mr. Audubon also observed this species, and he remarks, that instead of rearing their young in the same situations chosen for breeding, as with the Velvet and Surf Duck, it conducts its brood to the sea as soon as they are hatched. Its flight is high and swift; and it swims and dives with the utmost dexterity. So great is its confidence in the security of its most natural element, that on the report of a gun over the water, it instantly quits its flight and dives at once with the celerity of thought.* It is said to be clamorous, and that its voice is a sort of whistle; the anatomy of the trachea is however, unknown, and it is not said whether this sibilation be really produced from the throat or the wings, as is the latter case in the Common Clangula or Golden Eye. Driven from their solitary resorts in the interior by the invasion of frost, they are now seen out at sea engaged in obtaining a different mode of subsistence. Amidst these icy barriers they still continue to endure the rigors of winter, continually receding further out to sea, or making limited and almost accidental visits to milder re-

* Audubon in lit.

gions. When discovered, they display the utmost vigilance, and instantly take to wing. It is considered to be a game superior in flavor to the Common Wild Duck. From the singular and beautiful crescent-shaped lines and marks which ornament its neck and breast it has probably come by the dignified appellation of *lord*, among the fishers of Newfoundland. It is here too rare to have acquired any particular name.

The Harlequin Duck is about 20 inches in length; the wing 8 inches; the bill above, 1 inch 1 line; the tarsus 1½ inches. The general color of the *male* is plumbeous inclining to blue. The head and neck black with a gloss of violet. A large triangular space of white betwixt the base of the bill and the front of the eye connecting with a chestnut stripe descending to the occiput where it meets and includes a stripe of black. An oval white spot near the ears. A linear-oblong white patch of about 1¾ inches on the sides of the nape. A white ring round the base of the neck, broader anteriorly; also a long curving white spot margined with black on either side from the shoulders towards the front of the breast. Tertiaries and scapulars with a broad white space on their inner webs towards their tips. The speculum black glossed with indigo-blue. *Beneath* slate color tinged with chestnut. Flanks as far as the thighs bright chestnut. Rump and longish pointed tail, black. A small white spot on the sides near the rump. Bill bluish-black, the tip orange-red. Irids dusky. Legs and feet blackish-brown. Wings 1½ inches shorter than the tapering tail. The *female* much smaller than the male.

Subgenus. — *Macropus.

The *bill* nearly as high as the head at the base, and narrowed towards the extremity. *Nostrils* basal. The head small. The body and feet robust. The tertiaries curving outwards, Tail wedge-shaped, composed of 12 feathers. Nearly allied to the subgenus Oidemia, but without the frontal plates at the base of the bill.

This very singular Duck is confined to East Asia and the western side of the American continent, where it dwells in high latitudes and nests in the inaccessible cliffs contiguous to the sea coast.

WESTERN DUCK.

(*Fuligula Stelleri*, Bonap. Synops. No. 344. *Anas Stelleri*, Pallas. Spicil. Zool. fasc. v. p. 35, tab. 5. *Anas dispar*, and *A. Stelleri*, Gmel. Syst. Lath. Ind. iii. Western Duck, Penn. Arct. Zool. ii. p. 289. No. 457. plate 23. Sparman, Mus. Carls. tab. 7. and 8. *Steller's And*, Swensk, Zool. ii. fascic. ii. pl. 62.)

Sp. Charact. — Speculum metallic black, margined with white; bill blackish-green; tail cuneiform. — *Male* white; beneath rufous; front and band on the nape greenish; orbits, throat, collar, and back black. *Female* reddish-brown, varied with dusky and black.

This beautiful and singular Duck was discovered by the learned voyager Steller, in flocks, inhabiting, during the breeding season, the inaccessible rocks on the coast of Kamtschatka. In these wild and desolate retreats, contiguous to the sea, they were found to have their nests, but were so exclusively maritime, as never to enter even the estuaries of the contiguous rivers. They are very common at Oonalashka, and stray accidentally into northern and eastern Europe, and probably sometimes into Atlantic America; but like the Eider, whose aspect and manners they so nearly possess, they seldom stray farther from their natal abodes than to the open inlets and seas contiguous to their favorite haunts. A pair were shot in Oster Gothland, in Sweden, both of which were engraven by Doctor Sparman. They inhabit likewise the western coast of America.

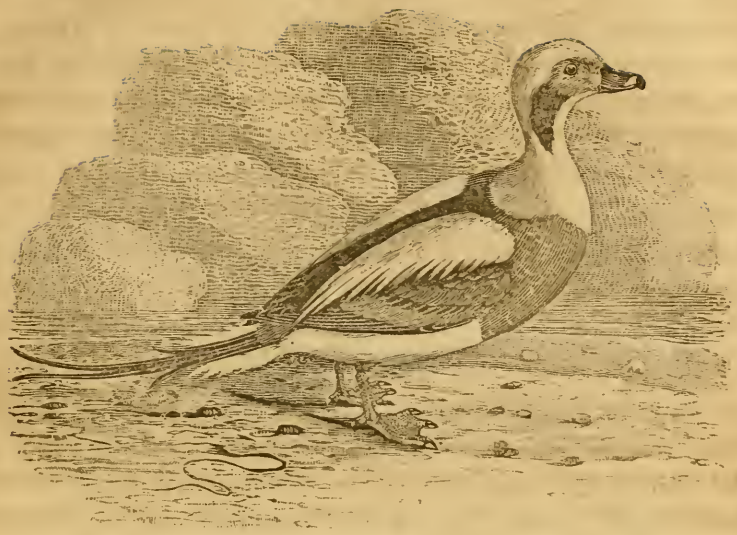
The length of this species is about 17 inches. In the *male* there is a small occipital crest. There are two spots of bright green, one upon the nape, and the other larger one passes along the lower part of the front and from the bill to the eyes. The eyes are surrounded with small silky black feathers. The fore part of the neck, throat and back, black, with violet reflections; a collar round the neck of the same color but more brilliant. The breast slightly tinged with rufous; the rest of the body white. The primaries bright dark

brown; the secondaries black, tipped with white; the tertiaries violet black externally, white internally, they are also pointed and curved outwards towards their extremities. Vent and tail black, the latter short and pointed. Bill black. Iris pale brown. The feet black. — The *female* is ferruginous marked with dusky and black, with two white spots upon the wing coverts, the feathers of which are straight and blackish. This is the *Anas ferruginea* of LATHAM.

Subgenus. — HARELDA. (Genus of, *Leach.*)

WITH the *bill* very short, and high at the base, the nail broad and arched; laminæ distant, prominent, and cutting; the upper ones projecting below the margin of the mandible; the lower ones also considerable as the upper, and divided into two nearly equal rows. *Nostrils* large and oblong, almost basal. Front high; the neck rather thick. *Tail* very long and tapering composed of 14 feathers. Toes short.

This is altogether a marine species, inhabiting the arctic regions of both continents. It is generally gregarious, feeds on marine productions, vegetable and animal, and is remarkable in winter for its noisy vociferation. The plumage varying in color with the season.



LONG-TAILED DUCK.

(*Fuligula glacialis*, Bonap. Synops. No. 346. *Harelda glacialis*, Leach. and Rich. and Swains. North. Zool. ii. p. 460 *Anas glacialis*, Linn. Lath. Ind. ii. sp. 82. Temm. ii. p. 860. Wilson, viii. p. 93. pl. 70. fig. 1. and 2. [male and female in winter dress.] Long-tailed Duck, Penn. Arct Zool. ii. No. 501. Ib. Brit. Zool. p. 156. t. *Q. Canard à long Queue, ou Canard de Miclon*, Buff. Ois. ix. p. 202. Ibid. Pl. Enlum. 1008. *La Sarcelle de Ferroe.* Pl. Enlum. 999. *Anas caudacuta harilda*, Ray. Syn. p. 145, 14. [the young of the year]. Phil. Museum, No. 2810.)

Sp. Charact. — Speculum brown, nearly of the same color with the wing; a whitish space round the eye, tail long of 14 unequal pointed feathers. *Male* varied with black and white; middle tail feathers greatly elongated. *Winter plumage*, with the head, neck and scapulars white, the latter pearly. *Female* dusky brown, throat and collar ash-grey; crown blackish: in *winter* beneath white.

This elegant and noisy Duck, known so generally in the Southern States by the nickname of 'South-Southerly,' from its note, and, in most other parts by the appellation of

'Old Squaws' or 'Old Wives,' is an Arctic inhabitant of both continents, and abounds in the glacial seas of America, where it is seen commonly associated with the Eider, Surf, Black and other Ducks of congenial habits, who invariably prefer the frail but, to them, productive dominion of the sea to the land or its more peaceful waters. So strong is the predilection of this species for its frigid natal climes and their icy barriers, that it is seen to linger in the north as long as the existence of any open water can be ascertained; when the critical moment of departure, at length approaches, common wants and general feeling begin so far to prevail as to unite the scattered families into numerous flocks. They now proceed towards the south, and making a halt on the shores and inland lakes round Hudson's Bay, remain until again reluctantly driven towards milder climes They are the last birds of passage that take leave of the fur countries. Familiar with cold, and only driven to migrate for food, in the latter end of August, when already a thin crust of ice is seen forming in the night over the still surface of the Arctic Sea, the female Harelda is observed ingeniously breaking a way with her wings for the egress of her young brood.

According to the state of the weather we consequently observe the variable arrival of these birds. In October they generally pay us a visit, the old already clad in the more dazzling garb of winter. The young sometimes seek out the shelter of the fresh-water ponds, but the old keep out at sea. No place in the Union so abounds with these gabblers as the Bay of Chesapeake. They are lively, restless and gregarious in all their movements, and fly, dive and swim with unrivalled dexterity; and subsist chiefly upon small shell-fish, and marine plants, particularly the *Zostera* or Grass-Wrack. Late in the evening, or early in the morning, towards spring more particularly, vast flocks are seen in the

bays and sheltered inlets, and in calm and foggy weather we hear the loud and blended nasal call reiterated for hours from the motley multitude. There is something in the sound like the honk of the goose, and, as far as words can express a subject so uncouth, it resembles the guttural syllables *'ogh ough egh*, and then *'ogh ogh ogh ough egh*, given in a ludicrous drawling tone; but still with all the accompaniments of scene and season, this humble harbinger of spring, obeying the feelings of nature, and pouring forth his final ditty before his departure to the distant north, conspire with the novelty of the call, to please rather than disgust those happy few who may be willing 'to find good in every thing.' This peculiar cry, is well known to the aboriginal sons of the forest, and among the Crees the species is called *'Hah-ha-way*, so much like the syllables I have given above, that many might imagine my additions no more than a version of the same. But I may perhaps be allowed to say, that, the notes I had taken on the subject were made two years previous to the publication of Dr. Richardson's Zoology, from whence I learn this coincidence of the name and sound as given by the aborigines of the north. This Duck is no less known to the Canadian voyagers, who have celebrated it in their simple effusions by the name of the "*Caccàwee*,"

In the course of the winter the Long-Tailed Ducks wander out in the bays and inlets nearly if not quite, to the extremity of the United States coasts; and in the spring, voyaging along the unruffled bosom of the great Mississippi, with the many thousands of other water fowls, which penetrate by this route into the interior, we also find among the crowding throng, some small flocks of the present species who proceed as far as the banks of the Missouri.*

* Mr. Say.

In Spitzbergen, Iceland, and along the grassy shores of Hudson's Bay contiguous to the sea, they make their nests about the middle of June, lining the interior with the down from their breasts, which is equally soft and elastic with that produced by the Eider. The eggs are about 5, of a pale greenish-grey, and with both ends rather obtuse, they are about 26 lines long and 18 wide.*

These birds abound in Greenland, Lapland, Russia and Kamtschatka, are seen about St. Petersburgh; and from October to April many flocks pass the winter in the Orkneys. They are only accidental visiters on the great lakes in Germany and along the borders of the Baltic; and are often seen, but never in flocks, upon the maritime coasts of Holland. The flesh of the old birds is but little esteemed, yet that of the young is pretty good food.

The length of this species, varying with the unequal length of the long tail feathers, is rated at from 22 to 26 inches. One which I have just measured in winter plumage, gives 24 inches; the bill from above, 1 inch; the tarsus 1 inch 3 lines. The bill black, crossed near the extremity by a broad band of dull orange. Irids dark red. Cheeks and frontlet, dull dusky drab (sometimes nearly altogether white,) the same color passing over the eye, and joining a large patch of blackish-brown on the side of the neck; throat, and rest of the neck white. The crown tufted, and of a pale cream color (sometimes wholly white.) Lower part of the neck, breast, back and wings, black. Scapulars and tertiaries, pale bluish or pearly white, long, pointed, and falling gracefully over the wings; the white of the neck descends an inch or two over the back: the white of the belly spreads over the sides, and nearly meets at the rump. Secondaries bright brown forming a bar or imperfect speculum over the wing. Primaries, rump and tail coverts brownish-black. The 4 middle tail feathers black, the central pair 4 to 6 inches longer than the adjoining ones, the rest of the tail tinged internally with ash. Legs and feet, dusky grey.

In the old *female* the tail is short, and its feathers edged with

* Richardson's North. Zool. ii. p. 460.

white, and the 2 central ones are not lengthened. A spot on the throat and the eye bands whitish-ash. Nape, the fore and lower part of the neck, vent and abdomen, pure white. Summit of the head and a large space on the sides of the neck blackish-ash. Breast varied with ash and brown. Feathers of the back, scapulars, and wing coverts black in the middle, bordered and tipt with ashy-rufous; the rest of the upper plumage sooty brown. The bluish of the bill crossed by a yellowish band. Iris pale brown. Feet lead color. Length about 17 inches. — In *winter* the middle of the crown, and a spot on the side of the neck is blackish; a narrow dusky line runs along the throat for 2 inches: the rest of the head, and upper half of the neck white, the lower half pale cinereous bay, blended with white. All the rest of the lower parts of the body, pure white. Back, scapulars, and lesser wing coverts, bright ferruginous, the feathers centred with black, and interspersed with tints of whitish. Shoulders of the wings and quills black; lower part of the back the same, tinged with brown. Tail pale brown ash; inner vanes of all but the two middle feathers, white. Legs and feet dusky-slate.

Summer dress of the male, with the whole upper plumage, the 2 central pairs of tail feathers, and the under plumage to the fore part of the belly, brownish-black; the lesser quills paler. A triangular patch of feathers between the shoulders and the scapulars broadly bordered with rufous. Sides of the head from the bill to the ears ash-grey. Eye stripe, and posterior under plumage pure white. Flanks, sides of the rump, and lateral tail feathers, white, stained with brown. Axillaries and inner wing coverts clove-brown. Bill as in winter.

In the trachea of the male, besides the labyrinth, there is an expansion immediately above it of about two diameters, this is flattened externally and covered with an oblong, thin membrane; another similar fenestrate appearance exists on the external side of the labyrinth.

MERGANSERS. (Mergus, *Linn.*)

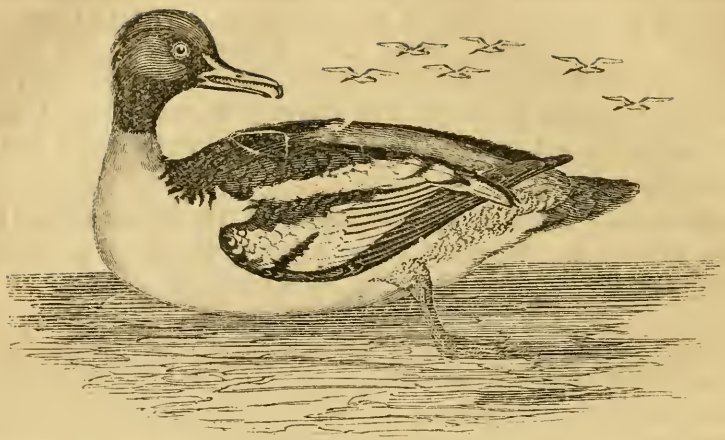
With the bill long, or only of moderate dimensions, straight, somewhat cylindric, broader than high at the base, narrow, and somewhat compressed at the point; the edges serrated, and with the subulate and sharp teeth inclining backwards; the upper mandible hooked and furnished with a nail at the tip. Nostrils lateral, near the middle of the bill, very small and pervious. Tongue almost subulate, but thick, covered with recurved papillæ. Feet placed far back, robust, and turned outward; the tibia retracted into the abdomen; tarsus much compressed, shorter than the middle toe; webs full and entire; hind toe equal to a joint of the middle one, touching the ground only at tip, and furnished with a broad membrane; nails hooked. *Wings* moderate, acute; 1st and 2d primaries about equal and longest. *Tail* short and rounded, consisting of from 16 to 20 feathers.

The *female* and *young* differ greatly in plumage from the adult male. They moult annually, the old male in the spring, the female and young in autumn. The plumage extremely thick and compact. The trachea of the male is furnished with two large expansions.

The Mergansers have a great resemblance to the Ducks; they live equally in the water, swim deep and dive often and with great facility, proceeding with the velocity of a fish under water, and employing their wings in this element as if in the air. They also fly swiftly and for a considerable time together in removing from place to place, and in the execution of their protracted and distant migrations. They dwell habitually in cold countries, where they pass the period of reproduction, and are only seen commonly in temperate climates at the approach of winter. The Mergansers are much more wild and untameable than Ducks, and seem only capable of subsisting in *fera naturæ*. They feed principally on fish and amphibious reptiles. From the posterior position of their feet they are scarcely capable of walking, tottering from side to side with the utmost embarrassment. They breed on the ground or in hollow trees near freshwaters, retiring for the purpose often far into the interior; the nest is lined with down, and the eggs are from 8 to 14. The male keeps near the nest while the female is sitting; and the young are conducted to the water as soon as they are hatched, but by the

female parent only. The males at this season secede from their mates, who are alone seen in company with, and act as the protectors of their brood; when pursued they escape by swimming and diving, and however driven, the mother in every extremity remains by her brood, long unable to fly, and refuses to save herself by taking to wing. Their flesh is generally tough and ill tasted.

The genus consists of but 5 species. All the European, and one race peculiar are found in North America, and there is another species on the Southern side of the same continent.



GOOSANDER.

(*Mergus merganser*, Lin. Lath. Ind. ii. p. 828. sp. 1. Wilson. viii. p. 68. pl. 68. fig. 1. [male] and 2. [female.] Bonap. Synops. No. 347. Temm. ii. p. 881. Rich. and Swains. ii. p. 461. Goosander, or Merganser, Penn. Brit. Zool. p. 147. t. *N.* Ibid. Arct. Zool. 2. No. 465. *Le Harle*, Buff. Pl. Enlum. 951. *Mergus castor*, Gmel. Lath. Ind. ii. sp. 2. [female]. *Le Harle femelle*, Buff. Ois. viii. p. 236. Id. Pl. Enlum. 953. Dun-Diver, or Sparling Fowl, Lath. Syn. vi. p. 420, 421. *A.* [*female.*] Phil. Museum, No. 2932.)

Sp. Charact. — Speculum white, uninterrupted; bill and feet red; nostrils about the middle of the bill. — *Male* black, neck and beneath white; the head tufted, purplish-green. *Female* cinereous, beneath white; head rufous, tufted.

The Goosander inhabits the remote northern regions of both continents, being seen during summer on the borders of grassy lakes and streams throughout the whole of the fur countries, and are among the latest of their tribe in autumn to seek an asylum in milder climates. They are said to breed in every latitude in the Russian empire, but mostly in the north. They are common also in Kamtschatka, and extend through northern Europe, to the wintry shores of

Iceland and Greenland. Many, however pass the breeding season in the Orkneys, and these scarcely ever find any necessity to migrate. They are seen in small families or companies of six or eight in the United States in winter, and frequent the sea shores, lakes and rivers, continually diving in quest of their food which consists principally of fish and shelly mollusca. They are also very gluttonous and voracious, like the Albatross sometimes swallowing a fish too large to enter whole into the stomach, which therefore lodges in the œsophagus till the lower part is digested before the remainder can follow. The roughness of the tongue, covered with incurved projections, and the form of the bent serratures which edge the bill, appear all purposely contrived with reference to its piscatory habits. In the course of the season they migrate probably to the extremity of the Union, being seen in winter in the Mississippi and Missouri, from whence at the approach of spring they migrate north or into the interior to breed.

The Goosander is seen to frequent the coast only in the depth of winter; and in its remote resorts in the north it fears the cold much less than the ice; as in that condition its supply of food is necessarily cut off. According to Pennant, one was seen in Helsingeland in the month of January, during a period of the most intense cold. It is said to lay 12 to 14 whitish eggs, almost equally pointed at both ends, nesting sometimes in hollow trees, on the ground, or in the shelter of grass and bushes. The extent of the breeding range in this species, as among many other retiring birds, is yet far from being sufficiently ascertained. Early in the month of May (1832), while descending the Susquehannah near to Dunnstown, a few miles below the gorge of the Alleghanys, through which that river meanders near the foot of the Bald Eagle Mountain, G. Lyman, Esq. and myself observed near the head of a little bushy island,

some Wild Duck, as we thought, with her brood making off round a point which closed the view. On rowing to the spot, the wily parent had still continued her retreat, and we gave chace to the party, which with all the exertions that could be made in rowing, still kept at a respectable distance before us. We now perceived that these diminutive possessors of their natal island were a female Goose-ander or Dun-Diver, with a small but active little brood of 8 young ones. On pushing the chase for near half an hour, the young, becoming somewhat fatigued, drew around their natural protector who now and then bore them along crowding on her back. At length, stealing nearly from our sight, as the chase relaxed, the mother landed at a distance on the gravelly shore, which being nearly of her own grey color and that of her family, served for some time, as a complete concealment. When we approached again, however, they took to the water, and after a second attempt, in which the young strove to escape by repeated divings, we succeeded in cutting off the retreat of one of the family, which was at length taken from behind a flat boat under which it had finally retreated to hide. We now examined the little stranger, and found it to be a young Merganser of this species, not bigger than the egg of a goose, and yet already a most elegant epitome of its female parent, generally grey, with the rufous head and neck, and the rudiments of a growing crest. After suffering itself to be examined with great calmness, and without any apparent fear, we restored it to its more natural element, and, at the first effort, this little diminutive of its species flew under the water like an arrow, and coming out to the surface only at considerable distances, we soon lost sight of it, making good its aquatic retreat in quest of the parent. On inquiry, we learnt from the tavern keeper, that, for several years past a nest or brood of these birds had annually been seen near this solitary and seclu-

ded island. In such situations, probably, escaping the observance of man, many of these birds spread through the country and breed, from Pennsylvania to the remotest parts of the Canadian fur countries.

The male Goosander is about 31 inches in length; the female 25. In the male the bill above, is 2 inches 4 lines; the tarsus 2 inches. The males vary 4 inches and more in length. In the old *male*, the head and upper part of the neck is of a greenish-black with reflections. Lower part of the neck, breast, vent, abdomen, wing coverts and scapulars farthest from the body, pure white, but shaded elegantly with yellowish rose color upon the lower parts (which fades nearly away in dried specimens.) Top of the back and scapulars nearest the body deep black. Humeral wing coverts blackish; greater coverts fringed with black. Back and tail ash. Bill vermilion red on the sides, but black above and below. Iris reddish-brown, sometimes red. Legs vermilion.

In the *female* the crest, mostly occipital, consists of long and slender feathers; the head and upper part of the neck rufous-brown. Throat white. Lower part of the neck, breast, flanks, and thighs, whitish-ash. Vent and abdomen yellowish-white; all the upper parts dark ash. Speculum white, without transverse bands. Bill dull red. Iris brown. Feet yellowish-red; the webs cinereous red.

The *young of the year* scarcely differ from the female.

RED-BREASTED MERGANSER.

(*Mergus serrator*, Linn. Gmel. Lath. Ind. ii. sp. 4. Wilson. viii. p. 91. pl. 69. fig. 2. [male.] Bonap. Synops. No. 348. Temm. ii. p. 884. Rich. and Swains. North Zool. ii. p. 462. Red-Breasted Merganser, Penn. Arct. Zool. ii. No. 466. Edwards. Glean. t. 95. [male.] *Le Harle Huppé*, Buff. Pl. Enlum. 207. Phil. Museum, No. 2936.)

Sp. Charact. — Speculum white, crossed with black; Bill and feet orange; nostrils near the base of the bill; a long slender pendent crest. — *Male* black, neck and beneath white; head and crest

purplish-green. *Female* cinereous, the head rufous; the speculum crossed by an ash-colored band.

This Merganser is again another general inhabitant of the whole northern hemisphere, spreading itself in the summer season throughout the remote fur countries and western interior, from whence, at the approach and during the continuance of winter, they migrate towards the sea coast in quest of open water and the necessary means of subsistence. The Red-Breasted Mergansers, equally common in Europe as in North America, are seen as far as Iceland, breed in Greenland, and inhabit most parts of the Russian dominions, particularly the great rivers of Siberia, and the waters of lake Baikal. In the northern parts of Britain they pass the period of reproduction, as on Loch Mari in the county of Ross, and in the isle of Ilay. In Sweden it is observed to arrive later than the preceding. As winter passengers they abound on the coasts of Holland, and sometimes visit the marshes of the interior. On the borders of the Mediterranean they also migrate as far as Venice, but are rare in France. They arrive about Hudson's Bay in June, as soon as the ice breaks up, and make their nests immediately after, of withered grass, and a lining of down or feathers from their breasts: the eggs are generally 8 in number, sometimes as many as 13, of a bluish-white and about the size of those of a common Duck. The young are at first of a dirty brown, like young goslings.

The breeding range of this species is no less extensive than the preceding. According to Audubon, they nest in rank weeds on the borders of lakes, in Maine and other parts of the Union; and Mr. Say observed them on Lake Michigan in 42°, on the 7th of June, assembled there no doubt to pass the summer.

This species like the rest of the family dives well, and dexterously eludes the sportsman when wounded, moving

about often in the greatest silence, with its bill only elevated above the water for respiration. In the winter, while here, they frequent the bays and estuaries as well as fresh waters, and feed as usual on fry and shell-fish.

The length of the Red-Breasted Merganser appears to vary from 21 to 25½ inches in the male; the female is more than 4 inches shorter. The bill above, in the male is 2 inches 4½ lines; in the female 2 inches. Tarsus 1 inch 10 lines; in the female 1 inch 7 lines. In the *male* the head is furnished with a long crest of slender feathers, which together with a part of the neck is black, glossed with green; the neck below, pure white, ending in a broad space of brown approaching to buff spotted with black, which extends over the lower part of the neck and sides of the breast. Shoulders, back and tertiaries, deep velvety black, the first marked with a number of roundish white spots. Scapulars white. Wing coverts mostly white, crossed by two narrow bands of black. Primaries black; secondaries white; several of the latter edged with black. Lower part of the back, rump, and tail coverts, grey speckled with black. Sides under the wings waved with black. Belly and vent white, Tail dusky ash. Legs and feet brownish-orange. Bill orange on the sides and beneath; dark above. Irids red.

The *female* is under two feet long, similar with that of the preceding species, but differing in the form of the line of junction of the plumage of the forehead with the bill, and in the black bar crossing the speculum on the bases of the secondaries and extreme tips of the greater coverts. It is also several inches smaller.

HOODED MERGANSER.

(*Mergus cucullatus*, Linn. Lath. Ind. Orn. p. 830. sp. 5. Wilson. viii. p. 79. pl. 69. fig. 1. [male.] Bonap. Syn. No. 349. Rich. and Swains. North. Zool. ii. p. 463. Hooded Merganser, Penn. Arct. Zool. ii. No. 467. The Round-crested Duck, Edwards. pl. 360. Catesby. 1. pl. 94. *Harle couronné*, Buff. Pl. Enlum. 935. [male.] and 936. [female.] Phil. Museum, No. 2930. [male.] and 2931. [female.])

Sp. Charact. — Speculum white, crossed with black; bill blackish-orange; feet flesh-color, a large circular crest. — *Male* black, beneath white; crest black, white on each side. *Female* sooty-brown, beneath white; crest ashy-ferruginous, without the white.

This elegant species is peculiar to North America, and inhabits the interior and northern parts of the fur countries to their utmost limits. It is also among the latest of the Anatidæ to quit those cold and desolate regions. It makes a nest of withered grass and feathers in retired and unfrequented places, by the grassy borders of rivers and lakes. According to Audubon, it also breeds around the lagoons of the Ohio, and on the great North-Western Lakes of the interior. On the River St. Peters, in the 45th parallel, Mr. Say observed them on the 18th of July, no doubt in the same place where they had passed the rest of the summer. At Hudson's Bay, where they arrive about the end of May, they are said to nest close to the borders of lakes and lay 6 white eggs. The young are at first yellowish and begin to fly in July. The Hairy Head, as this species is sometimes called, is rarely seen but in fresh waters and lakes, approaching the sea only in winter, when its favorite haunts are blocked up with ice. It delights in the woody interior, and traces its way up still creeks, and sometimes visits the mill ponds, perpetually diving for small fish and insects in the manner of the Red-Breasted Merganser. In the course of the winter they migrate as far south as Mexico, are very common throughout the whole winter in the Mississippi, and are rendered very conspicuous by the high circular and particolored crest which so gracefully crowns the top of the head.

The length of the male varies it appears, from 18 to 20 inches. The length of the bill above in the same sex is 1 inch 8 lines; the tarsus 1 inch 3 lines. The top of the head, dorsal plumage, upper

lesser wing coverts, quills and tail, blackish-brown. Sides of the head, neck, bars on the shoulders, scapulars, tertiaries, and bases of the secondaries and greater coverts, greenish-black. Broad bar from behind the eye through the middle of the crest, alternate bars on the shoulder, tips of the greater coverts, exterior borders of the secondaries, central stripes on the tertiaries, and under plumage, white. Flanks finely undulated with yellowish-brown and black. Crest on the crown and nape long. Wings 2½ inches shorter than the tail. Bill blackish-red. Tail pointed, consisting of 20 feathers. Legs and feet flesh colored, the claws large and stout. The trachea is furnished with a small labyrinth.

In the *young* the upper plumage is browner; and the white speculum and stripes on the tertiaries less perfect than in the adult. No black and white bars on the shoulder, nor white band behind the eye. The head, neck, and upper parts of the breast, soiled pale brown, with white edgings on the breast. Chin whitish. Bill black, orange beneath. The crest scarcely visible.

THE SMEW, OR WHITE NUN.

(*Mergus albellus*, Linn. Lath. Ind. 2. sp. 6. Wilson, viii. p. 126. pl. 71. fig. 4. [male.] Bonap. Synops. No. 350. Temm. Man. d'Orn. ii. p. 887. The Smew, Penn. Arct. Zool. ii. p. 261. No. 468. *Le Petit Harle Huppé*, ou *La Piette*, Buff. Ois. viii. p. 275. Ib. Pl. Enlum. 449. Ib. *La Piette femelle*, Pl. Enlum. 450. *Mergus minutus*, Linn. Faun. Suec. No. 138. [female]. Lath. Ind. sp. 7. *M. asiaticus*, S. G. Gmel. Reis. ii. p. 188. t. 20. [ibid.] *M. stellatus*, Brunn. Orn. Boreal. No. 98. *M. pannonicus*, Scopoli. Ann. 1. No. 92. Phil. Museum, No. 2944. [an *European* specimen !])

Sp. Charact. — Speculum black, crossed with white : bill and feet bluish. — *Male* white, varied with black; the crown white. *Female* cinereous, beneath white; crown reddish-brown.

As a native of America this appears to be a very doubtful species. Pennant gives it on the authority of a specimen sent to Mrs. Blackburn (of Orford in Lancashire) from

New York. It is unnoticed by Vieillot, is very rare in the Middle States to the Prince of Mussignano, as it was to Wilson on the shores of New Jersey: but the latter adds, probably on mere report, that it was more common on the coast of New England and in some of the lakes in the state of New York; but in all our researches we have never met with it or heard of it either in Maine or Massachusetts. It was never met with by Richardson or the other naturalists in the fur countries or in Arctic America; and was not found in Labrador by the indefatigable Audubon; from all which we are sufficiently led to conclude, that the Smew is in America little more than a straggler. Yet in Europe it extends its summer migrations as far as Iceland; and in the Russian empire frequents the same districts as the Goose-ander, and migrates with them and several kinds of ducks up the Wolga as early as February. In winter it is much more common in Britian than any of the other Mergansers. It is also common in Germany, Holland, France, and descends as low as Carniola, Italy and Tinos in the Archipelago in the course of the winter. The females and young which visit the lakes of Switzerland, are called Ice Ducks, as they do not appear there until the hard frosts commence. They are active divers, and feed on the same prey as the preceding species. They nest in the arctic regions, on the borders of lakes and rivers, laying from 8 to 12 whitish eggs.

The Smew is about 17 inches in length. In the *male* there is a large patch of greenish-black on either side of the bill; a similar, but longitudinal one upon the occiput. A tufted crest. The neck, scapulars, lesser wing coverts, and all the lower parts, pure white. Top of the back, the two crescents advancing upon the sides of the breast, and the borders of the scapulars, deep black. Tail cinereous. Flanks and thighs varied with cinereous zig-zag lines. Bill, tarsus and toes bluish-ash; the webs black. Iris brown.

In the *female* the summit of the head, cheeks and occiput are of

a rufous-brown. The throat, upper part of the neck, vent and abdomen white. Lower part of the neck, breast, flanks, and rump pale ash. Upper parts and tail very dark ash. Wings varied with white, cinereous, and black. Length about 16 inches.

The *young of the first year* resembles the female. The *males at the completion of one year* are distinguished by the small blackish feathers which form a large patch at the sides of the bill; by some whitish and white feathers sprinkled upon the head and occiput. The upper part of the back is also varied with black and ash colored feathers; and there are indices of the 2 black crescents upon the sides of the breast.

PELICANS. (Pelecanus, *Linn.*)

In these large and remarkable birds the BILL is very long, broad, straight and much depressed; the upper mandible flattened, seamed on each side, the ridge distinct, ending in a compressed and strongly hooked nail; the lower mandible broader, formed of two branches, uniting at the extremity, and supporting a naked membrane distending into a large pouch. NOSTRILS in the furrow, basal, linear, scarcely distinguishable. *Tongue* very small and obtuse. Face and cheeks naked. The FEET nearly central, short and robust: tibia naked below; the whole 4 toes connected by a membrane, 3 forward, the hind toe shortest; webs broad, full and entire. The nail of the middle toe entire or pectinated on its edge. *Wings* moderate, ample; the 2d primary longest; secondaries extending to the primaries. *Tail* rounded, of 20 feathers.

The female similar to the male in plumage; the young differing much from the adult for a long period. The moult is annual. The general color of these very large birds is white or cinereous.

The Pelicans live indifferently upon rivers, lakes, or on the sea coasts, continuing their flight often for a long period, and occasionally rising in the atmosphere to great elevations; they usually, however, fly low and heavily, in a waving and almost serpentine course. They swim well; and though they can perch on trees with a firm hold, they generally prefer the bosom of the water or the bare ground. Sometimes when aroused by the calls of hunger they skim the surface of the water, or balancing themselves in the air at a moderate elevation,

with a loud plash, pounce headlong on their prey. In the morning and evening these small associated flocks are seen thus engaged in fishing until their pouch and œsophagus is sufficiently gorged, they then retire to rocks, bare shoals, or doze on the water while digesting their gluttonous meal. At this time, aware of their imbecility, and the difficulty with which they rise when pursued, they usually select the most solitary or insulated retreats. They are exceedingly voracious; the very emblem of gluttony, and their voice is a mere hoarse, hollow and indistinct sound, sometimes bordering on a grunt. They are said occasionally to exhibit some address in the capture of their prey, the whole company uniting and encircling a piece of water, beat with their wings near the surface, until the confused and crowding fish of the shoal come more conveniently within their grasp. They breed on rocks near the water, generally choosing places of the most difficult access and lay from 2 to 4 eggs.

The Pelicans are spread over all the warm, temperate, and almost frigid climates of the globe; and one of the species may be considered as a cosmopolite. The species are about five.

PELICAN.

(*Pelecanus onocrotalus*, Linn. Lath. Ind. ii. p. 882. Bonap. Synops. No. 351. Rich. and Swains. North. Zool. ii. p. 472. Temm. Man. d'Orn. ii. p. 891. Great Pelican, Penn. Arct. Zool. ii. p. 306. No. 305. Edwards, Glean. pl. 92. *Le Pélican*, Buff. Ois. viii. p. 282. t. 25. Ibid. Pl. Enlum. 87. [adult.] *Le Pélican des Philippines*, Buff. Pl. Enlum. 963. [young.] *Pelecanus fuscus*, and *P. manillensis*, Gmel. and Lath. also the young. Phil. Museum, No. . . . .)

Sp. Charact. — Middle nail entire; primaries black; the first much longer than the fifth. — *Adult* white, tinged with rose color; a slender nuchal crest. *Young* whitish-grey; back and wings dark ash color.

The Pelican, the largest of web-footed water fowl, known from the earliest times, has long held a fabulous celebrity

for a maternal tenderness that went so far as to give nourishment to its brood at the expense of its own blood. Its industry and success as a fisher, at this time, allows of a more natural and grateful aliment for its young, and pressing the well stored pouch to its breast, it regurgitates the contents before them, without staining its immaculate robe with a wound.

If indeed, authors do not include more than a single species in the *P. onocrotalus*, no bird wanders so widely or inhabits such a diversity of climates as the Common Pelican. In the cooler parts of Europe it is however seldom seen, being observed in France, England, and Switzerland, only as a very rare straggler. It is likewise uncommon in the north of Germany, though great numbers occur on the banks of the Danube. This resort and that of the Strymon, also famous for its Swans, is noticed by Aristotle. They are found in Red Russia, Lithuania, Volhinia, Podolia and Pokutia, but are unknown in the northern parts of the Muscovian empire, being seldom met with as far as the Siberian lakes, yet are observed about that of Baikal. In the old world the Pelicans seem to affect more the warm than cold climates. Along the Mediterranean, we find them in the island of Majorca, the lakes of Mantua and Orbitello. In the time of Martial they were common in the territory of Ravenna; and exist in Asia Minor, in Greece, and on the Propontis, and the Black and Caspian seas. Belon observed them at sea, on their passage between Rhodes and Alexandria; and he afterwards saw them in flight on the confines of Arabia and Palestine. The lakes of Judea and of Egypt, the banks of the Nile in winter, and those of the Strymon in summer, seen from the heights, appear whitened by flocks of Pelicans. They are likewise common in Africa, on the Senegal and the Gambia, as well as at Loanga, and on the coasts of Angola, Sierra Leone, and Guinea,

They occur at Madagascar, at Siam, in China, the isle of Sunda, and at the Phillippines, especially in the fisheries of the great lake of Manilla. They are sometimes met with at sea, and have been seen in the remote islands of the Indian Ocean. Captain Cook observed them likewise in New Holland.

In America Pelicans are found in the North Pacific, on the coast of California and New Albion; and from the Antilles and Terra Firma, the isthmus of Panama and the bay of Campeachy, as far as Louisiana, and Missouri. They are very rarely seen along the coast of the Atlantic, but stragglers have been killed in the Delaware, and they are known to breed in Florida. In all the fur countries they are met with up to the 61st parallel of northern latitude. Indeed, in these remote and desolate regions they are numerous, but seem to have no predilection for the sea coast, seldom coming within two hundred miles of Hudson's Bay. They there, according to Richardson, deposit their eggs usually on small rocky islands, on the banks of cascades where they can scarcely be approached, but still are by no means shy. They live together generally in flocks of from 6 to 14, and fly low and heavily, sometimes abreast, at others in an oblique line; and they are often seen to pass close over a building, or within a few yards of a party of men, without exhibiting any signs of fear. For the purpose of surprising their prey, they haunt eddies near water-falls, and devour great quantities of carp and other fish. They can only swallow apparently, when opening the mouth sideways and somewhat upwards like the Shark. When gorged with food, they doze on the water, or on some sand shoal projecting into or surrounded by it, where they remain a great part of their time in gluttonous inactivity digesting their overgorged meal. At such times they may be easily captured, as they have then great difficulty in starting

to flight, particularly when the pouch is loaded with fish. Though they can probably perch on trees, which I have never seen them attempt, they are generally on the wing, on the ground, or in their favorite element.

In the old continent, the Pelican is said to nest on the ground in an excavation near to the water, laying 2 or 3, and rarely 4 eggs, which are pure white, and of nearly equal thickness at both ends. Their nesting in deserts remote from water, and the story of the parents bringing water for their young in the pouch, in such quantities as to afford drink for camels and wild beasts, appears only one of those extravagant fictions, or tales of travellers invented to gratify the love of the marvellous. Yet so general is the belief in the truth of this improbable relation that the Egyptians style it the Camel of the river, and the Persians, *Tacab*, or the Water-Carrier. The pouch of the Pelican is however very capacious, and besides drowning all attempts at distinct voice, it gives a most uncouth, unwieldy, and grotesque figure to the bird with which it is associated. The French very justly nickname them *Grand-gosiers*, or Great-throats; and as this monstrous enlargement of the gullet is capable of holding a dozen quarts of water, an idea may be formed of the quantity of fish it can scoop, when let loose among a shoal of pilchards or other fish, which they pursue in the course of their migrations.

The Pelican appears to attain to a great age. According to Culmann, in Gesner, a tame one in possession of the emperor Maximillian, which is said to have followed him with the army, lived to the age of fourscore.

It is remarkable, that while the Pelican of the Atlantic and the Pacific, habitually frequents the ocean, that which so generally inhabits North America, is rarely seen on the sea coast, and then only as a straggler, seeking, even at such times, the protection of bays and rivers. Its habits

are also essentially different. It never boldly soars aloft, nor seeks its prey at sea. The oceanic species is likewise seen in troops, sometimes following a retreating shoal of fish, and circumventing their escape by enclosing them as in a ring; at other times, soaring over their prey, they drop down like a plummet, and plunging headlong, cause the foaming sea to fly up for eight or ten feet by the rebound. These and other actions foreign to our bird, would seem to indicate an original difference of race. Yet again, we find them on the old continent principally upon large rivers and residents on lakes.

The flesh of the Pelican, as Buffon remarks, needed not to have been forbidden among the Jews as unclean, for it condemns itself by its bad taste, its marshy scent, and its oily fat, though some navigators have eaten of it, who say that it is better than either that of the Boobies or Man-of-War Birds.

The length of the Pelican is about 6 feet. The general color is white, tinged with peach-blossom red; the breast yellowish; bastard wing and quills black. Bill bluish, the margins and nail reddish. Naked skin round the eye, base of the upper mandible, and the feet flesh colored; the pouch yellow. The hind head is crested. Neck covered with down.

Note. Some specimens, apparently in mature plumage, have the bill quite even above; but individuals have a long thin bony process, about two inches high, springing from the ridge of the upper mandible. It does not appear that these excrescences ever exist in the bills of the Pelican of the Old Continent. In the transatlantic bird there is also sometimes a stain of pale green on the breast, similar to the coloring on the head of the Eider Duck.

BROWN PELICAN.

(*Pelecanus fuscus*, Linn. Bonap. Synops. No. 352. Vieill. Gal. des Oiseaux, pl. 276. Dusky Pelican, Penn. Arct. Zool. ii. No. 506. *Pelican brun d'Amerique*, Buff. Ois. viii. p. 306. Pl. Enlum. 957. *P. carolinensis*, Lath. Penn. No. 507. *P. trachyrhyncus*, and *P. erythrorhyncos*, of authors. Phil. Museum, No. . . . . .)

Sp. Charact. — Middle nail serrated internally; primaries black, the shafts white; the 1st quill equal to the 5th. — *Adult* blackish-ash, back and wings hoary; crown yellowish; neck deep chestnut, margined each side with white. *Young* wholly brownish.

The Brown Pelican inhabits exclusively the sea coast of the warmer parts of America, being abundant in the West Indies, particularly in Jamaica, Barbadoes, &c. It is also seen in Mexico, the Bay of Campeachy, and as low as Carthagena and Cayenne. They are likewise common in the Southern States, abounding in the bay of Charleston where they are seen actively engaged in pursuit of their prey. They likewise breed and inhabit in the peninsula of East Florida, and occasionally wander up the Mississippi as far as the river Missouri. They are, like the preceding species, very gluttonous and voracious. After gorging themselves, they retire to the rocks or islets, and during the process of digesting their enormous meal, remain dozing and inactive for hours together, with the bill resting on the breast, at which times, in South America, it is no uncommon thing for the natives to steal upon them unawares, and seize them by the neck without their making any defence or resistance. Yet, like some other gregarious birds, they are said to show a great affection for the wounded of their own species to whom they will carry a supply of food. Father Raymond relates, that he had seen one of these Pelicans so well tamed and taught among the aborigines, that it would go off in the morning,

and return before night to its master with its pouch distended with fish, a great part of which the savages made it disgorge, leaving it in possession of the remainder as a reward for its service.

Length nearly 4 feet. The young bird has the bill red, with a black nail. Naked space between the bill and eyes red. The head mottled with ash color and white; the nape slightly crested. The hind part of the neck covered with soft ash-colored feathers. Back, scapulars, primaries, and wing coverts dusky, edged with dull white. Tail deep ash. Legs dusky-green.

CORMORANTS. (Phalacrocorax, *Briss.*)

In these birds, closely allied to the Pelicans, the bill is of moderate dimensions, straight, and compressed; the upper mandible seamed and rounded above, with the ridge distinct, unguiculated and hooked at the point, the lower somewhat shorter, furnished at base with a small naked membrane produced on the throat. Nostrils in the furrows, basal, linear, scarcely visible. *Tongue* very short, and obtuse, carinated above. Hind head very protuberant; the face and small pouch naked. *Feet* short and robust: tibia much drawn up into the belly, wholly feathered, tarsus carinated before and behind; the whole 4 toes connected by a membrane; webs broad and full; hind toe half as long as the middle one; middle nail serrated on the inner edge. *Wings* moderate, 2d and 3d primaries longest. *Tail* rounded, of 12 or 14 rigid feathers.

The sexes alike in their plumage. The young differing greatly from the adult. They moult twice in the year, acquiring additional ornaments in the spring. The plumage thick and close; its colors black.

The Cormorants associate in families, near water, and swim with dexterity, with the body deeply immersed, sometimes with the head only exposed; they dive after their prey with expanded wings, advancing with great velocity, and remaining long submerged; they also fly well and with rapidity, and are seen perching on branches, or sitting for hours on high and bare rocks, with their wings outspread, as if basking in the air. They walk awkwardly and in an erect

posture, using their rigid tail as an additional means of support. The Cormorants feed almost exclusively on fish; retiring from the water with the prey in their bill, and in order to swallow it head foremost, throw it up into the air, and catch it as it descends. They build in high trees or in hollow and shelving rocks, as well as on the ground among reeds: the nest is constructed with little art and of coarse materials; the eggs are 3 or 4 and whitish. They have sometimes been trained to fish for man.

The species are rather numerous and spread over the whole world.

CORMORANT.

(*Phalacrocorax carbo*, Dumont. Bonap. Synops. No. 353. *Carbo cormoranus*, Meyer. Temm. Man. d'Orn. ii. p. 894. *Pelecanus carbo*, Linn. Gmel. Lath. Ind. ii. sp. 14. *Le Cormoran*, Buff. Ois. viii. p. 310. t. 26. Ib. Pl. Enlum. 927. [summer dress.] The Cormorant, Penn. Brit. Zool. p. 159. t. *L.* 1. [the young of a year old.] Ibid. Arct. Zool. ii. p. 509. Phil. Museum, No. . . .)

Sp. Charact. — Bill 4 inches long; tail moderate, rounded, consisting of 14 feathers. — *Adult* glossy black; a white collar on the throat. In *summer* a golden-green crest; head, neck, and thighs with long, slender, silky, white feathers. *Young* blackish; beneath mixed with whitish.

The Cormorant, Phalacrocorax, or Bald Raven of the Greeks, like the Pelican, to which it is nearly related, is also a general inhabitant of nearly every maritime part of the world, and even extends its residence into the inclement regions of Greenland, where by following the openings of the great icy barriers of that dreary region they find means to subsist and to fish throughout the year. To the natives of this frigid climate they also prove of singular service, their tough skin is used by them as garments, the pouch is employed as a bladder to float their fishing tackle, and the flesh though coarse is still acceptable to those who can regale upon seals, and whale's blubber.

This uncouth and gluttonous bird is plentiful on the rocky shores of Great Britain, Holland, France and Germany. On the shores of the Caspian they are sometimes seen in vast flocks, and are frequent on lake Baikal. They inhabit China, the coast of the Cape of Good Hope, and are common in the Phillippine islands, New Holland, New Zealand, and other neighboring regions. At Nootka Sound, and in Kamtschatka they have been observed by various navigators; and are found in North America, from Hudson's Bay and Labrador, to the coasts of Carolina and Georgia. They are not however common in the central parts of the United States, though they penetrate into the interior as far as the Missouri river.* They breed, and are seen in the vicinity of Boston on bare and rocky islands, nearly throughout the year, and in all places appear shy, retiring and sedentary, enduring the most severe weather with impunity, and only removing seawards or south in the depth of winter for the purpose of acquiring food. Mr. Audubon found them breeding on the ledges of almost inaccessible rocks at Grand Manan isle, in the Bay of Fundy. Their eggs are 3 to 5,

* Mr. Say.

white, roughened with a calcareous incrustation, and small for the size of the bird. They appear very wary and shy, and feed their young with great assiduity, whose voice at this time resembles the hissing of snakes.

The Cormorant is a very dexterous and voracious fisher, committing great havoc when it visits pools and lakes; but it almost constantly resides on the sea shores, and is seldom seen inland. Swimming beneath the water with the velocity of a dart in the air, and remaining a long time submerged, its prey scarcely ever escapes, and it almost always rises with a fish in its bill, to swallow which it employs the expedient of tossing it into the air, and dexterously catches the head in its descent, so that the fins lie flat, and thus favor the passage down the throat; the small pouch at the same time stretches so as to admit the whole body of the fish, which is often very large in proportion to the neck, and it there remains undergoing a preparatory digestion previous to its passage into the lower part of the stomach.

In some countries, as in China, and formerly in England, the dexterity of the Cormorant in fishing was turned to profit; for, by buckling a ring about the lower part of the neck, to prevent deglutition, and accustoming it to return with its acquisitions in the bill to its master, it was made an useful and domestic fisher. On the rivers of China, Cormorants, thus fixed, are perched on the prows of boats, and at a signal made by striking the water with an oar, they instantly plunge, and soon emerge with a fish, which is taken from them; and this toil continued till its master is satisfied, he looses the collar, and finishes the task by allowing it to fish for itself. But it is only hunger which gives activity to the Cormorant; when glutted with its meal, which is soon acquired, it relaxes into its native indolence, and dozes away the greatest part of its time in gluttonous inebriety, perched in solitude on naked and insulated or inac-

cessible rocks to which it prudently retires for greater safety from the intrusion of enemies.

In Europe, where they are alike sedentary and averse to migration, they are known to breed from the coasts of Holland to the shores of Greenland, and they are equally residents in America nearly to the extremity of the Union. The nest is usually made with sticks, sea weeds, grass, and other coarse materials, commonly upon rocks, but sometimes upon trees on the banks of rivers, where they are occasionally seen perched. According to Lawson, they are observed in great flocks in Carolina, in March and April, when the herrings ascend the creeks; at which time they are seen on fallen logs in the water waiting and watching the approach of their prey.

The Cormorant rarely exceeds the length of 3 feet 3 inches, and is commonly smaller. The bill blackish-ash, 5 inches long. Irids grass or emerald green. The chin and round the base of the bill to the eyes, bare and yellow. Head and neck black. Back greenish-black, glossed with purple, each feather bordered with deep black; scapulars and wing coverts the same, dashed with ash color. Below black, except a small patch of white upon the throat. Quills and rounded tail dusky black. Feet black.

Summer plumage with a dark green brilliant long crest upon the hind head and a part of the nape; also a large white collar on the throat. Upon the summit of the head, on a great part of the neck and the thighs, appear some very long, attenuated, silky white feathers. The rest of the plumage is as in the winter. These feathers also are more or less long in proportion to the age of individuals.

DOUBLE-CRESTED CORMORANT.

(Phalacrocorax dilophus. Pelecanus (Carbo) dilophus, Swains. Rich. and Swains. North. Zool. ii. p. 473.)

Sp. Charact. — Tail of 12 feathers; bill 3½ inches long; a crested tuft of feathers behind each eye.

This new species, allied to the common Cormorant, was obtained on the Saskatchewan in the month of May, by Dr. Richardson, but of its habits and manners we are wholly ignorant: it seems, however, there to supply the place of the other species which is not mentioned as found in the fur countries.

Length about 33 inches; the bill from the front 2 inches 1 line, the wing 12 inches; middle tail feathers 6½ inches; tarsus about 2 inches 3 lines: the long toe and nail 4 inches 1 line. The bill blackish-brown. Orbits and naked skin round the chin yellow. Over the eye a line of white dots. General plumage above and below, deep bluish-black, glossed obscurely with green; this color, as usual, confined to the margins only of the feathers on the upper part of the back, the lesser wing coverts and the tertials, the middle of which are light hair-brown: quills much darker. Tail and feet black. The middle toe strongly pectinated. Naked space on the sides of the head small, extending from the bill to the eye, which it scarcely encircles; it also occupies a narrow margin at the rictus, and then curves downwards under the chin, which it crosses, leaving a naked space 3½ inches in length, measured to the base of the gonys of the under mandible. Immediately behind the eye is a conspicuous crest or tuft of narrow slender feathers, many of which are an inch and a quarter long. Tail moderate, of 12 feathers, each of which is graduated. Lesser quills slightly mucronated.

THE SHAG.

(*Phalacrocorax graculus*, Dumont. Bonap. Synops. No. 354. *Pelecanus graculus*, Linn. Lath. Ind. ii. sp. 15. *Carbo graculus*, Temm. Man. d'Orn. ii. p. 897. *Fou brun de Cayenne*, Buff. Pl. Enlum. 974. [young of the year]. Shag. Penn. Arct. Zool. ii. No. 508. Lewin's Brit. Birds. vii. t. 264. *Pelecanus parvus*, Gmel. Lath. [young]. Phil. Museum. No. . . . .)

Sp. Charact. — Bill about 3½ inches long; tail very long, conic, composed of 12 feathers. — *Adult* greenish-black; with a few scattered white streaks on the neck. In *summer* bronze-colored, with a golden-green crest; head, neck and thighs, with short and small white feathers. *Young* blackish, more or less tinted beneath with whitish.

The Shag, a denizen of nearly the whole world, inhabits both the old and new continent, and is colonized in both hemispheres. They are frequent in most parts of Europe, as far north as Sweden, Norway and Iceland; and in the eastern parts are birds of passage. In Africa, Brazil, and under the Antarctic circle they are particularly numerous. They are common in most parts of the United States, as far south as East Florida where they even breed, in large communities in trees;* but are not, however, found apparently much further north than the bays and islands of the St. Lawrence. In the southern hemisphere Cook and Forster found them in the desolate island of Georgia, in a region nearly inaccessible to man, where, associated with the Penguins, they lodged among the tufts of rushy grass, the only vegetable production of that dreary tract. On Staten Land they were also observed in great numbers; and were almost the exclusive possessors of the islands in the Straits of Magellan, one of which Captain Cook named after them.

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* Audubon, in lit.

In these dreary wastes, the Shags breed amongst broken rocks, or on projecting cliffs advancing into the ocean. In other parts their nests are made among patches of flags, or in tall tufts of coarse grass; where they inhabit, collected by thousands. The report of a musket does not disperse them, they only rise a few feet, and alight again into their nests, nor is the use of fire arms necessary, for they may be dispatched with sticks, without producing any general alarm by the attack. The flesh of the young is accounted pretty good food.

The Shag dwells perpetually on the borders of the sea, and rarely ever wanders inland like the Cormorant. On the rocky coasts or on trees in which they sometimes breed, they construct a coarse and bulky nest of sticks and sea-weed, and lay 2 or 3 white eggs of a long oval figure. On a small rock, a little detached from the shore, Montagu counted as many as 30 nests together. The Shag, by reason of the weight of its body in proportion to the feathers, swims deep in the water, showing in fact only the head, neck, and back; but they are most expert divers and devour a prodigious quantity of fish. In Holland, near Sevenhuis, they were known to build, like Herons, on tall trees or insulated rocks. In Massachusetts Bay, at the approach of winter, they are seen to assemble in numerous and dense flocks, so that several dozen have been killed at a shot.

The length of the Shag is about 29 inches. In the *winter dress of the adult*, the head, throat, neck, back, and all the lower parts are of a dull greenish-black. Upon the neck are some small obscure whitish spots. The feathers of the top of the back and of the wings are dark ash in the middle, each bordered widely with deep black. Naked space around the eyes and small gular pouch reddish-yellow. Bill reddish-ash, black above. Iris reddish-brown. Feet black.

CRESTED SHAG.

(*Phalacrocorax cristatus*, Dumont. Bonap. Synops. No. 355. *Pelecanus cristatus*, Gmel. Lath. Ind. Orn. ii. p. 888. sp. 16. Fabric. Fauna Grœnl. No. 58. Olaffen, Voy. en Islande, vol. ii. and Atlas tab. 44. *Carbo cristatus*, Temm. Man. d'Orn. ii. p. 900, and Ibid. Planche color. 322. [adult in full dress]. *Carbo brachyurus*, Brehm. Crested Shag, Penn. Arct. Zool. ii. p. 312. [4to] A.)

Sp. Charact. — Bill very slender, 3½ inches long; tail very short, rounded, of 12 feathers. — *Adult* dark and bright golden-green, without white feathers. In *summer* a broad, long, golden tuft on the top of the head, and a slender crest behind. The *young* blackish, beneath more or less whitish.

The Crested Shag, is also an inhabitant of the northern part of both continents. It is said to be common in Iceland, in the Orkneys, and in Norway and Sweden, in the vicinity of the large lakes. In Britain they inhabit the dark and bleak precipices of Holyhead, on the coast of Wales, and the cliffs of the Isle of Wight. They are likewise seen in the south of Greenland, where like the Night Herons, the rocks they frequent are covered by their excrements. They have the same habits and mode of breeding as the preceding species; nesting in the clefts of rocks, laying 2 long and whitish eggs covered with a calcareous incrustation. It is rather rare in the United States, and seen only in the winter.

The length of the Crested Shag is about 2 feet 4 inches; the alar extent 42 inches; the bill above 2 inches 4 lines. *Winter dress of the adult*, with all the plumage of a fine deep resplendent and shining green. Upper part of the back, scapulars, wing coverts and quills of a fine bronze color, each feather surrounded with a narrow border of velvety-black. The extremities of the closed wings not extending beyond the commencement of the tail, which is short,

rounded and of a dull black. Base of the bill, and the very small gular pouch, of a fine yellow. Bill brown. Feet black. The iris green.

DWARF SHAG.

(*Phalacrocorax pygmæus*, Dumont. Bonap. Synops. No. 356. *Pelecanus pygmæus*, Pallas. Reise, ii. p. 712. t. *G.* Gmel. Syst. i. p. 574. sp. 19. Lath. Ind. ii. sp. 25. *Le Cormoran pygmée*, Sonn. Nouv. Edit. de Buff. Ois. xxiv. p. 77.)

Sp. Charact. — Bill 1½ inches long, shorter than the head ; tail long, cuneiform, of 12 feathers ; scapulars long and subulate. — *Adult* black, slightly glossed with green ; eyebrows dotted with white ; orbits and pouch black. No crest in *summer*, the head, neck and thighs, finely streaked with white. The *young* blackish, beneath whitish ; the orbits and pouch yellowish.

As a native of the United States and of the northern parts of America we introduce this species on the authority of the Prince of Musignano, who reports it from seeing one reputed specimen of native origin. It is probably a mere straggler on the Atlantic coast, but from its occurrence in Asiatic Russia, may more probably be expected on the western side of America. It is seen about the Caspian Sea, and other parts of Russia, is common in Hungary, on the banks of the Danube ; but rare in Austria and the contiguous parts of Germany.

The length of this small species is only about 22 inches. *The adult in winter* has all the plumage of the upper parts of the body of an ashy black, each feather being narrowly bordered round with glossy black. Neck and lower parts greenish-black. Some very small white spots on the eyebrows. Bill, orbits, and small gular nudity deep black. Feet blackish-ash.

AFRICAN SHAG.

(*Phalacrocorax africanus*, Dumont. Bonap. Synops. No. 357. *Pelecanus africanus*, Gmel. Lath. Ind. ii. p. 890. sp. 24. *Sparman*, Mus. Carls. fascic. iii. tab. 61. [a good figure.])

Sp. Charact. — Bill 2 inches long, longer than the head; tail long, rounded, composed of 12 feathers; scapulars long, subulate. The size very small. — *Adult* black, slightly glossed with green; throat white. *Young* blackish, beneath whitish.

This hitherto rare species, given on the authority of the Prince of Musignano, inhabits both continents. It has been found by Sparman at the Cape of Good Hope. I am assured by Mr. Audubon also, that he has seen it in the United States.

The African Shag is only about 20 inches in length. The upper mandible of the bill is brown-black, the remainder of it dull yellowish-white. The head and neck brownish-black. Middle of the back and rump glossy black. Scapulars and wing coverts ash grey, each feather margined all round and tipped with black. The 3 first quills pale brown, inclining to cinnamon, the rest brown-black; secondaries as long as the quills, of a dusky black, edged with brown. Tail of 12 feathers, wedge-shaped, the 2 middle ones 7 inches long, the outer only 3½ inches; the 4 middle ones and the outer on each side pale brown, the rest black. Chin white Fore part of the neck mottled with dusky white and black; belly much the same, with a mixture of brown. Legs black.

Note. Mr. Audubon, by letter, mentions a new species as he believes, and which he will in due time publish, which breeds on the flat portions of Rocky Islands, (in Labrador?) raising a nest of weeds, sticks, &c. from one to three feet in length.

FRIGATE PELICANS. (Trachypetes, *Vieill.*)

In these birds the bill is longer than the head, dilated and entire on the margins; with both mandibles strongly hooked and acuminate at the points; the upper very acute, furnished with a nail, depressed at the base, the ridge grooved deeply on each side. Nostrils in the furrows of the bill, basal, linear, and but little apparent. *Tongue* very short and lanceolate; the gape very wide. Orbits and lores naked, the throat dilatable and furnished with a pouch. *Feet* very short, the thighs drawn up into the belly; tibia wholly feathered; tarsus compressed and carinated on both sides, half feathered. Toes 4, all connected together by membranes, the webs deeply indented; hind toe half as long as the middle one; the nails large, curved, and acute; the middle one serrated on its inner edge, and twice as long as the rest. *Wings* extremely long and narrow; the 1st primary longest. *Tail* deeply forked, of 12 flaccid feathers.

The sexes similar in their plumage. The young differing from the adult, and changing repeatedly. The moult occurs twice in the year, producing but slight change in the colors. The plumage not impermeable to water. The general colors approaching to black.

The Frigate Pelicans associate in small or large flocks; keep much on the wing, encountering storms with impunity, and soaring at times above the clouds. They fly with great rapidity, and are seen far out at sea, though never resting on the surface, as they appear unable either to dive or swim. On land they are seen perched on trees, or on high rocks; and when on the ground appear unable to rise and are easily caught. They pursue the flying fish, and seize it as it rises from the waves to escape from its pursuers in the deep. Tyrants of the ocean, they even seize upon the Pelican, and habitually harass the Gulls and Boobies, compelling them often to drop their finny prey, or even to disgorge that which they have swallowed, and are so eager and alert in the pursuit, as to seize the fish before it arrives at the waves. Their sight, like that of the Eagle, is keen and accurate, and they are often seen to pounce upon their quarry from the sky with an unerring aim. They sometimes skim the surface of the waves or lie suspended with their wings still elevated

above the back. They breed on trees, on desert shores, or on elevated rocks; the eggs are only one or two.

The birds of this group are chiefly tropical, and are formed of but two species, one of which is also doubtful. They are analogous in form and habits to the rapacious birds, especially the Eagles, which they seem to represent among the aquatic tribes.

FRIGATE PELICAN.

(*Trachypetes aquilus*, Vieillot, Gal. des Ois. pl. 274. Bonap. Synops. No. 358. *Pelecanus aquilus*, *P. leucocephalus* and *P. palmerstoni*, Gmel. Lath. *Fregate de Cayenne*, Buff. Pl. Enlum, 961. Man-of-War Bird, Edwards. *Fregata avis*, Ray.)

Sp. Charact. — Purplish-black: orbits black; shaft of the outer tail feather white beneath. — *Adult*, summer plumage? head white. The *young* with part of the breast and belly white.

The Frigate Pelican or Man-of-War Bird is chiefly seen on the tropical seas, and generally on the wing. They are

abundant in the Island of Ascension, India, Ceylon and China. In the South Sea they are seen about the Marquesas, Easter Isles and New Caledonia, also at Otaheite. Dampier saw them in great plenty in the island of Aves in the West Indies, and they are common off the coast of East Florida, particularly around the reefs or keys, often assembled in flocks of from fifty to a thousand.* They are also not uncommon, during summer, along the coasts of the Union as far as South Carolina, and breed in various places, retiring to warmer latitudes on the approach of cool weather.

The Frigate Bird is often seen smoothly gliding through the air, with the motions of a Kite, from one to two hundred leagues from the land, sustaining these vast flights with the greatest apparent ease, sometimes soaring so high as to be scarcely visible, at others approaching the surface of the sea, where hovering at some distance, it at length espies a fish, and darts upon it with the utmost rapidity and generally with success, flying upwards again, as quick as it descended. In the same manner it also attacks the Boobies and other marine birds which it obliges to relinquish their prey.

They breed abundantly in the Bahamas, and are said to make their nests on trees, if near: at other times they lay on the rocks; the eggs one or two, are of a flesh color, marked with crimson spots. The young birds covered with a greyish-white down, are assiduously attended by the parents who are then tame, and easily approached. When alarmed, like Gulls, they as readily cast up the contents of their pouch, as those birds do of the stomach.

The length of the Frigate Pelican is about 3 feet; the alar stretch 14. The bill is slender, about 5 inches long, and of a dusky color;

* Audubon in lit.

from its base spreads out a reddish dark colored skin on either side of the head, including the eyes. From the under mandible hangs a membranous bag descending some way down the throat, which is of a fine deep red, and as well as the other naked parts about the face most brilliant in the breeding season; on the sides of this pouch are sprinkled a few scattered feathers. The general plumage is brownish-black, with violet reflections, except the wing coverts which have a rufous tinge. The tail is long and deeply forked; the outer feathers 18 inches or more in length; the middle ones from 7 to 8. The legs and feet are dusky-red.

GANNETS. (Sula, *Briss. Temm.*)

The bill longer than the head, cleft beyond the eyes, robust, conically elongated, very stout at base, compressed towards the point, which is slightly curved; the edges of both mandibles serrulated. Nostrils in the furrow of the bill, basal, long and linear, almost hidden. *Face* and *throat* naked of feathers. Feet short, robust, drawn up into the abdomen; toes 4, all connected together by membranes, the webs full and entire; the hind-toe short, articulated interiorly; the middle nail serrulated on its inner edge. *Wings* long and acute, 1st and 2d primaries longest. *Tail* wedge-shaped, of 12 feathers.

The female similar to the male, but smaller. The young changing their plumage, as well as size for several years before attaining the livery of the adult. The moult annual. On the throat there is a small pouch or enlargement of the *œsophagus*, as in the Pelican, with which the birds of this genus have been formerly confounded.

The Gannets and Boobys have been stigmatised, perhaps unjustly, for cowardice and stupidity, suffering themselves sometimes to be taken or killed without much show of resistance. They chiefly dwell in desert and rocky islands near the sea, in incredible numbers, and are almost constantly on the wing, flying well, and keeping usually at no great distance from the shore; proceeding with the neck extended, and the tail spread Though provided with perfectly webbed feet, they seldom swim, and never dive. From the situation of their feet they walk with difficulty, standing nearly erect, and throwing in the assistance of their rigid tail to aid in supporting the

body; they are unable to rise on wing from the even ground, and hence they alight on elevated cliffs and projections. Caught suddenly in a situation from which they cannot rise, they consequently fall an easy and perhaps unresisting prey to their enemies, and may thus be hastily considered as stupid and cowardly. They fish by hovering over their prey with still and expanded wings, and descending seize them as they approach the surface of the waves. They remain so gregarious in the breeding season, that their nests touch each other, laying their eggs, mostly 1 and sometimes 2, on the rocks, beeches, or high ground surrounded by the sea. The young are for a long time covered with very soft and white down.

Some of the species are spread over all the warm and temperate regions of the earth; others migrate to the north to pass the summer. The races are extremely few: there are two species in the United States.

GANNET.

(*Sula bassana*, Lacepede. Bonap. Synops. No. 359. *S. alba*, Temm. Man. d'Orn. ii. p. 905. *Pelecanus bassanus*, Linn. Lath. Ind. ii. sp. 26. *P. maculatus*, Gmel. sp. 32. [young]. The Gannet, Penn. Arct. Zool. ii. No. 510. *Le Fou de Bassan*, Buff. Pl. Enlum. 278. [adult]. *Le Fou tacheté de Cayenne*, Buff. Ois. viii. p. 376. Ib. Pl. Enlum. 986. [young].)

Sp. Charact. — White, crown yellowish; primaries black, the shafts below white; face bluish. — *Young* blackish-brown, spotted with white; beneath brownish-cinereous.

The Gannet is another of the many marine birds common to both sides of the Atlantic Ocean. In the summer season they are extremely abundant on some rocky isles in the Bay of the St. Lawrence, and not uncommon on the coasts of the United States, especially to the south of Cape

Hatteras. On the south side of Long Island, and the neighbouring coast, they are seen in numbers in the month of October, associating with the Velvet and Scoter Ducks. In the summer they also penetrate into the Arctic regions of both continents, are seen on the coast of Newfoundland, and occasionally in Greenland. In Iceland they breed and are seen in great flocks. They are also equally common to the north-west coast of America.

These birds abound in Norway and the Hebrides, particularly on some of the least accessible of the islands. According to Dr. Harvey, Bass Island, not more than a mile in circumference, has, in the months of May and June, its surface almost wholly covered with nests, eggs, and young birds, so that it is scarcely possible to walk without treading on them; and the flocks of birds are so prodigious, when in flight, as to darken the air like clouds, and their noise so stunning that it is scarcely possible to hear your next neighbour. Looking down towards the sea from the top of the precipice, you see it on all sides covered with multitudes of birds, swimming and chasing their prey; and if in sailing round the island you survey the hanging cliffs, you may see on every crag, or fissure of the rocks, numberless birds of various sorts and sizes; and seen in the distance, the crowding flocks passing continually to and from the island can only be compared to a vast swarm of bees.

The rocks of St. Kilda are no less frequented by the Gannets, and Martin assures us, that the inhabitants of that small island consume annually, no less than 22,000 young birds of this species, besides a vast quantity of their eggs, these, being in fact, their principal support. This supply, though spontaneous from nature, is not obtained without imminent hazard of life to those who engage in procuring these birds and their eggs; as besides climbing difficult and almost inaccessible paths among the rocks beetling over the

sea, they sometimes lower each other down from above, by ropes in baskets, to collect their game from the shelvings and fissures of the rocks chosen by these sagacious birds. The young are a favorite dish with the North Britons in general, and during the season they are constantly brought from the Bass Isle to Edinburgh.

As might be supposed, the Gannets are in these islands birds of passage, making their first appearance in the month of March, continuing there till August or September, according as the inhabitants take or leave their first egg; but in general, the time of breeding, and departing, appears to coincide with the arrival of the Herring, and its migration out of those seas. It is probable that the Gannets attend the herring and the pilchard during their whole circuit round the British islands; the appearance of the former being always esteemed by the fishermen as a sure presage of the approach of the latter. It migrates in quest of food as far south as the mouth of the Tagus, being frequently seen off Lisbon in December, plunging for Sardines.

In the month of August, Dr. Harvey observed in Cathness their northern migrations; they were passing the whole day in flocks, from five to fifteen in each. In calm weather they fly high; in storms they proceed lower and near the shore; but never cross over the land, even when a bay with its promontories intervenes, but follow, at an equal distance, the course of the bay, and regularly double every cape. Many of the moving parties would make a sort of halt for the sake of fishing; for this purpose, they soar to a great height, then darting headlong into the sea, make the water foam and swell with the violence of the concussion, after which they pursue their route. With the arrival of the shoals of pilchards in the latter end of summer, they are seen on the coast of Cornwall, and in November, when they retire, the Gannets mostly disappear, though a few

linger on the coast throughout the winter. An individual killed near Mount's bay, made, as is common with this bird, a long struggle with a water spaniel, assisted by a boatman, showing himself both strong and pugnacious, and sufficiently redeeming on his part the gannet family from the ill supported charge of cowardice and stupidity.

Many years ago, a Gannet flying over Penzance, and seeing some pilchards lying on a fir-plank, in a cellar used for curing fish, darted down with such violence, that it struck its bill through the board, and broke its neck.

These birds appear to have a strong predilection for particular spots. On the Gannet Rock, in the Bay of the St. Lawrence, they are seen in amazing multitudes. This rock, (according to Audubon, from whom we derive the interesting information,) is 400 feet in height, and several acres in extent on the summit. At that time, the 8th of June, it was covered with innumerable birds upon their nests, so crowded or closely arranged as to give the appearance of a huge mass of snow, while the hovering crowds seen around this inaccessible marine mountain, forcibly presented at a distance the actual appearance of a snow storm. While thus engaged, the report of a musket did not seem in the least to alarm them; and defenceless, while obeying this powerful instinct, they allow themselves to be approached and dispatched without using any means for escape, appearing riveted to the spot, while engaged in the affections and cares of reproduction.

The nest of the Gannet is composed chiefly of sea-weed, and generally placed upon the most inaccessible parts of the highest rocks. The egg, (only one being laid before they hatch,) is white, and very like to that of the Cormorant, but not near so large as the egg of the Goose, weighing about $3\frac{1}{4}$ ounces.

The Gannet seems incapable of diving, at least no alarm

can force it to immerse. Upon the water it swims as buoyant as a gull. When offered fish they will take it, but will never go into a pond after it: and from every appearance of their actions on water, to which they will only go from compulsion, they cannot procure the fish beyond the extent of their neck. At certain times they rise from the water with so much difficulty, that they are easily run down by a boat; but when thus surprised defend themselves with vigor. According to Montagu, it is destitute of nostrils, or they are so concealed as to be rendered obsolete. The buoyancy of the Gannet is augmented to a great degree, by the power it possesses of transmitting air from the lungs, not only into the cavity of the body, but also into the cellular membrane which covers a great part of its exterior.

The Gannet is about 3 feet long; the alar extent 6. The bill about 6 inches long, of a soiled yellowish-white; when the bird is alive, of a bright bluish-grey; near the base of the upper mandible is a sharp process and suture, which enables the bird to move it a little in the act of swallowing large fish. Iris pale yellow. Chin naked, dusky. Whole plumage white, except the crown of the head, which is buff colored. The legs dusky, in front bluish-yellow; along the ridge of the two forward toes, the connecting membrane is unusually strong, and nearly as transparent as glass. In the *young of the year* the *upper* plumage is of a blackish-brown, and without spots. *Below* brown varied with cinereous; the bill, naked parts, and iris brown, and with the tail rounded. In the second moult, or *at the complete age of a year*, the head, neck, and breast, are of a greyish-brown, covered with small, approximating, lanceolate, white spots; the back, rump, and wings of the same cinereous-brown, bearing large white lanceolate spots, but more distant from each other. *Below* whitish, varied with grey-brown. Wings and tail brown, shafts of the latter white. Naked parts of the face bluish-brown. Bill grey-brown, but whitish towards the point. Iris yellowish. Front of the tarsus, and upper part of the toes greenish-brown; the streaks upon the tarsus and toes of a grey white; the membranes cinereous-brown, and the nails whitish. — At *two years*

of age, individuals, in the moult, appear covered with patches of white feathers among the remainder of the brown livery with its white spots.

BOOBY.

(*Sula fusca*, Briss. Bonap. Synops. No. 360. Vieill. Gal. des Oiseaux, pl. 277. *Pelecanus sula*, Booby, Catesby, i. p. 87. tab. 87. Linn. Buff. Pl. Enlum. 973.)

Sp. Charact. — Blackish-brown; beneath white; primaries black; face red. — *Young* spotted with white and brown.

The Booby is found to be an inhabitant of islands and desolate sea coasts throughout all the warm and temperate parts of the globe, and has acquired this degrading name from its silly aspect, and peculiar stupidity; suffering itself to be taken not only at sea on the ship's yards, but also on land, where they may be dispatched merely with clubs and sticks, in great numbers one after the other, without seeming to take any general alarm, or using any efficient effort for escape. The only cause that can be assigned for this want of conservative instinct, so general and prompt among most of the feathered tribes, is probably the fact, of the difficulty and almost impossibility of setting their long wings into motion when they happen to be surprised on level ground, or fatigued with undue exertion.

The Boobies however have a domestic enemy more steady though less sanguine in his persecutions than man; this is the Frigate Pelican or Man-of-War Bird, who, with a keen eye descrying his humble vassal at a distance, pursues him without intermission, and obliges him by blows with its wings and bill to surrender his finny prey, which the pirate instantly seizes and swallows.

The Boobies, however, notwithstanding this tribute to their marine monarch, contrive to obtain an ample supply of provision. They commonly hover above the surface of the waves, at times scarcely moving their wings, and drop on a fish the instant it emerges or approaches in view. Their flight, though rapid and long sustained, is greatly inferior to that of the Frigate Bird; accordingly they do not roam so far, and their appearance is generally hailed by mariners as an indication of the approach of land. Yet numbers are not wanting around the remotest and most sequestered islands in the midst of the wide ocean. There they live in companies, associated with Gulls, Tropic Birds, and their tyrannical persecutor the Frigate, who appreciating their assistance as providers, dwell and rest in the same retreats.

Dampier remarks, that in the Alcrane islands, on the coast of Yucatan, the Boobies were crowded so thick that he could not pass their haunt without being incommoded by their pecking. At this time they appeared ranged in pairs as if preparing to breed. When he struck them, some flew away, but the greatest number remained, and could not be roused to retreat by any effort. When they went out to sea in quest of provision, in common with their neighbors the Man-of-War Birds, they appointed sentinels to protect their young. Among the Frigates, some, (probably, the males after incubation,) lived in societies apart from the rest, dispersed to situations most suitable for obtaining pillage.

The Booby utters a loud cry, something in sound betwixt that of the raven and the goose; and this quailing is heard more particularly when they are pursued by the Frigate, or when assembled together they happen to be seized by any sudden panic. As they can only begin the motion of their wings by starting from some lofty station, they usually perch like Cormorants; and, in flying, stretch out the neck, and display the tail.

According to Dampier, in the isle of Aves they breed on trees, though in other places they nestle on the ground, and always associate in numbers in the same place. They lay one or two eggs; and the young continue for a long time covered for the most part with a very soft and white down. They abound on rocky islets off the coast of Cayenne, and along the shores of New Spain and Carracca, as well as in Brazil and on the Bahama islands, where they are said to breed almost every month in the year. The flesh is black and unsavory; yet sailors frequently make a meal of it. In summer they are not uncommon on the coasts of the Southern States.

The length of the Booby is about 2 feet 5 inches; the bill 4½ inches; the tail about 10. The orbits, and base of the bill yellow, its point brown. Legs straw colored. The belly white, all the rest of the plumage is ashy-brown.

TROPIC-BIRDS. (PHAETON, *Linn.*)

IN these the BILL is as long as the head, hard, much compressed, convex above, straight and acute at the tip; mandibles equal; the upper slightly curved towards the point, the margins dilated, sharp at the base and obliquely serrulated. NOSTRILS basal, concave, narrow, and pervious. *Tongue* very short. Head and throat wholly feathered. *Feet* very short; tarsi naked, toes 4, all connected together by membranes; hind one a third the length of the middle one: webs full and entire: nails moderately curved, acute, the inner edge of the middle one entire. *Wings* long; the 1st primary longest. *Tail* short, composed of 12 or 14 feathers, and with the middle pair very narrow, and extremely long.

The female similar in plumage with the male, but much smaller. The young differ much from the adult, and often change their appearance. They moult twice in the year. The plumage is thick and close, and its color generally white.

These are wandering and oceanic birds excelling in flight and in vision, and venturing out to great distances from the land. Unlike the Frigate Birds they are able to repose upon the sea, though they never dive. They alight on trees, rocks, and sometimes on the rigging of vessels, but are scarcely able to walk. They associate in families, and chiefly frequent remote and desert islands. They feed mostly on the flying-fish, which abound in the intertropical seas, and seize them by grazing the surface of the water. They nest in hollow trees, or in the clefts of impending rocks: the eggs are 2, and the young are at first clothed with a white and soft down. Their appearance, though a sure indication of the torrid zone, is none of the proximity of land.

As their common name implies, these are tropical birds, and in suitable climates appear all round the globe. The genus is composed of but 3 species; and they appear to be allied to the Terns.

TROPIC BIRD.

(*Phaeton æthereus*, Linn. Lath. Bonap. Synops. No. 361. *Le Grand Paille en cul*, Buff. Pl. Enlum. 979. and 998. [young.] *Phæton phœnicurus*, Vieill. Gal. des Ois. pl. 279. [adult.] Tropic Bird, Ray, Willughby, and Edwards. Phil. Museum, No. . . . . .)

Sp. Charact. — White varied with black; bill red; tail wedge-shaped, composed of 14 feathers. — *Adult* somewhat tinged with rose-red; the long tail feathers red.

The Tropic-Bird, soaring perpetually over the tepid seas, where he dwells without materially straying beyond the verge of the ecliptic, seems to attend the car of the sun under the mild zone of the tropics, and advertises the mariner with unerring certainty of his entrance within the torrid climes. Yet though generally confined to these more favored solar realms, which he widely explores to their utmost bounds, he sometimes strays beyond the favorite limit, and hence we have given him a place among the oceanic

birds which stray in summer to the coasts of the warmer States.*

The flight of the Tropic-Bird is often conducted to a prodigious height, at which in every season it can obtain a temperature of the most delightful kind. At other times, affected by the ordinary wants of nature, he descends from his lofty station, and accompanied by an ignoble throng of Frigates, Pelicans and Boobies, he attends the appearance of the flying-fish as they emerge from the water, pursued by their enemies of the deep. They are sometimes observed to rest on the surface of the sea; and have been seen in calm weather, upon the backs of the drowsy tortoises, supinely floating, so that they have been easily taken by allowing the approach of a boat. On shore they will perch on trees, and are said to breed on the ground beneath the shade of the adjoining woods. They are met with on the islands of St. Helena, Ascension, Mauritius, New Holland and in various parts of the South Seas; but in no place are they so numerous as at Palmerston Island, where, along with the Frigates they appeared in such plenty, that the trees were absolutely loaded with them, and so tame or listless that they suffered themselves to be taken from the boughs by hand. In the Sandwich and Friendly Islands, where they also abound, the natives set a high value on the long tail feathers made use of by way of ornament, and in Otaheite they formed a conspicuous part of the ostentatious garment worn by mourners. The flesh, though often eaten by mariners cannot be accounted good.

The length of the Tropic-Bird is about 2 feet 10 inches to the tip of the long tail feathers; the common size of the bird being about that of a domestic pigeon. The bill is upwards of 3 inches long and red.

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* Kalm even observed them out at sea off the coast of the United States in the latitude of 40°.

The head, neck, and under parts of the body are white, in the adult strongly tinged with rose red. Near the base of the upper mandible begins a streak of black, which curves round the upper part of the eye, and ends a little way behind in a straight direction. The back, rump, and scapulars white, crossed with curved streaks of black: the lesser wing coverts white, some of them transversely marked with black. Greater quills black, margined with white. Flanks black, or varied with dusky and white. Longer tail feathers about 5½ inches; the 2 longest above 20 inches in length and pointed, black for one fourth of the way from the base; the rest of the tail white in the young bird, but red in the adult. Legs dusky-yellow, the claws black.

DARTERS. (Plotus, *Linn.*)

With the bill longer than the head, slender, straight, conically lengthened, acuminate, much compressed, and very acute; the mandibles equal; the edges serrulated obliquely at the point; upper mandible wholly straight, the margins dilated at base, compressed and inflected towards the point. Nostrils in a rudimental furrow, basal, linear, and scarcely apparent. *Tongue* very short. Head small and lengthened; face and throat naked; neck long and slender, serpentine. *Feet* short and stout, the tibia drawn up into the belly: toes 4, all connected together by a membrane, the web broad and entire; hind toe half as long as the outer; nails stout, curved and acute, the middle one pectinated on the inner edge. Wings moderate, the 1st primary equal to the 4th; the 2d and 3d longest. *Tail* long and spreading, composed of 12 feathers; the feathers rigid, broad and rounded.

The sexes alike in their plumage: the young differing much from the adult, and changing their feathers repeatedly. They moult twice in the year, acquiring additional ornamental feathers in the spring. The plumage soft, close and downy; the prevailing color is black.

The Darters live in families, are extremely shy and vigilant, eminently aquatic, but keep in fresh water at a distance from the sea. They never walk, nor remain long on wing, but perch on trees,

from whence, when surprised, they plunge directly into their more natural element, swimming very deep, with the head only elevated above the water, and instantly submerging that also on the least alarm. When approached, they silently drop from the limbs of the trees on which they usually perch in company, and sliding into the water, reappear at a distance, transformed as it were into snakes, for which the head when alone presented might easily be mistaken. They feed on fish, which they catch by darting at them with their sharp bill and long vibrating neck. They nest in trees and lay 8 or more eggs.

These singular birds are confined to the warm parts of both continents; and the species are only two.

BLACK-BELLIED DARTER.

(*Plotus anhinga*, Linn. Lath. Ind. p. 895. sp. 1. Bonap. Synops. No. 362. *Plotus melanogaster*, Wilson, ix. p. 79. pl. 74. fig. 1. [adult.] and p. 82. pl. 74. fig. 2. [young.] *P. melanogaster*, Vieill. Gal. des Ois. pl. 278. [bad.] Buff. Pl. Enlum. 960. and 959. [young.] *Colymbus colubrinus*, (Snake Bird), Bartram's Travels, p. 132. and 295. Phil. Museum, No. 3188. [male.] and 3189. [female].)

Sp. Charact. — Black, varied with hoary: scapulars short, lanceolate; naked space on the throat extensive and black. — *Adult*, with the belly black. *Summer plumage*, with long slender black feathers on the nape. In the *young* the neck and beneath is whitish, tinged with pale rufous.

The Snake-Bird, or Black-Bellied Darter, is an exclusive inhabitant of the warmer parts of the Union, being found on the banks of retired, still, and shady rivers in low and swampy districts in both Carolinas as far as Cape Fear river to the north; in Georgia, Alabama, Louisiana, and the

Floridas. It is also observed in Mexico, Cayenne, and Brazil. No bird, in the situations and climates it inhabits, can exhibit a more suspicious or sinister appearance than the Anhinga. Its long and dark serpentine neck and small head, vibrating backward and forward, presents entirely the appearance of a snake, whether seen through the foliage of a tree, or emerging from the still and sluggish stream in which it often swims with the body wholly immersed to the neck, and on being approached or startled even that is instantly withdrawn, and sweeping beneath the flood in perfect silence, we at length see it again rise at a distance which defies approach.

The projecting limbs of trees suspended over these streams, in the most retired situations, are the usual perches frequented by the Darters when not engaged in fishing and diving after their finny prey. Here they lurk in indolence and solitude, occasionally sunning und dressing their plumage, and like the patient Heron, they sometimes watch in silence the approach of some ill-fated fish, on which they pounce with accurate aim, swallowing the smaller ones at a single gulp, and bringing out the larger to some stump or log where they tear it up with their claws and devour it piecemeal. When approached, they drop from their secret retreats or perches into the water with the utmost silence, scarcely making more commotion in the stream than the gliding of an eel. They usually build in low trees stretching over the water in their favorite swamps, lagoons, or rivers, and sometimes select the retirement of islands. The nest is made of sticks and coarse weeds, and the eggs, probably 8 or more, are said to be of a sky blue color. They are so attached to particular localities as to breed for a series of years in the same tree. The young as well as the old, if materially disturbed, drop from the nest into the stream over which they are usually suspended, in perfect silence,

like lumps of lead, diving often entirely beyond the view before they again emerge. According to Bartram, they are sometimes seen in the heat of the day, in great numbers, sailing very high in the air over the lakes and rivers. Their flesh, like that of most birds of similar habits and diet, is considered as very unpalatable.

The length of the Black-Bellied Darter is about 2 feet 10 inches. The bill to the angle of the mouth 4 inches. The head, neck, and whole body above and below of a deep and shining black, with a green reflection. On the upper part of the back are some small oblong, ashy-white spots, which pass down the shoulders, increasing in size, with the relative magnitude of the feathers, and descending down the scapulars. Wings and tail black, the latter broadly tipped with soiled white. The lesser coverts of the wings glossed with green, and also spotted with ashy-white; the last row of the lesser coverts, and the coverts of the secondaries, chiefly ashy-white, forming a large bar across the wing. The outer web of the large scapulars is crimped. Tail rounded, the two outer feathers for the greatest part of their length, crimped on their outer webs, the two next feathers are in a slight degree so. Bill dusky above and at the base; the upper mandible brownish-yellow at the sides, the lower yellow. Irids brown. The orbit of the eye next to the plumage of the head is of a greenish-blue color, and this passes round in the form of a zigzag band across the front, the next color which surrounds the whole eye is black. Eyelids bright azure. Lores greenish-blue. Naked skin in front black; jugular pouch jet black. The nape partly crested. Along the sides of the neck there runs a line of loose unwebbed feathers of a dull ash color, resembling the plumage of callow young. — The neck near its centre, takes a bend in order to enable the bird to dart forward its bill with velocity when it takes its prey. Legs and feet yellowish clay color: claws greatly hooked. The closed wings extend to the centre of the tail.

HELIORNIS. *Bonaterre. Vieill.* (Podoa, *Illig.*)

With the bill of moderate dimensions, straight, cylindric-compressed, subulate, somewhat curved and notched at tip, acute; the

edges sharp and entire; mandibles equal; the upper slightly furrowed on either side nearly its whole length, the margins dilated at base. Nostrils in the furrow, medial, concave, oblong, pervious, covered by a membrane, but open in the middle. *Head* small, entirely feathered; neck moderate, slender. *Feet* short; tibia almost entirely feathered; hind toe short, touching the ground at tip only; connecting membrane much indented, very deeply scalloped, merely bordering the anterior toes; hind toe free and simple: *nails* short, curved, and acute. *Wings* moderate, acute; 2d and 3d primaries longest. Tail spreading, composed of 12 feathers.

The sexes alike in plumage; but the young differing somewhat from the adult. They moult twice in the year, but scarcely change the colors of their plumage. The feathers thick, close, and downy; the colors brownish.

These are very active birds residing on rivers and creeks. They fly well, and swim and dive with celerity. They walk awkwardly and scarcely ever rest but on their favorite element. They are often in the habit of expanding their wings and tail. As might be supposed from their aquatic life, they subsist principally on fish, water reptiles and winged insects, which they capture in the air with great dexterity. They nest on the ground, in marshes, contiguous to water. — They are confined to the warm portions of America and Africa, and consist of two sectional species.

SURINAM DARTER.

(*Heliornis surinamensis*, Vieill. Bonap. Synops. No. 363. *Plotus surinamensis*, Lath. Ind. *Podoa surinamensis*, Illiger. *Le Grebe-Foulque*, Buff. Pl. Enlum. 893. *Oiseau de Soleil*, Descript. Surin. ii. p. 192. Surinam Tern, Brown.)

Sp. Charact. — Brown, beneath whitish; sides of the neck striped with black and white; bill and feet dusky, the latter barred with black; toes semipalmated; tail rounded, with the feathers broad.

This bird inhabits the warmest parts of America, particularly Surinam, and in summer is an accidental visiter in the Middle States of the Union. It is chiefly seen on the

sides of rivers and creeks, feeding on small fish, as well as on insects, but above all on flies which it seizes with great address by the strokes of its sharp bill, scarcely ever failing in the attempt. It is often domesticated by the inhabitants, displaying a great deal of action, and keeping the head and body in continual motion. From the frequent circumstance of expanding its tail and wings at the same time, it has been conceived to resemble the sun, and has in consequence, on this slender ground, acquired the name of the Sun Bird.

The length of this species is about 13 inches. The bill an inch and an eighth long. The irids red. Crown of the head black, the feathers lengthened into a small crest. The head itself is small; and the neck slender and long in proportion to the body. Cheeks bright bay. From the corner of each eye is a line of white. The sides and hind part of the neck longitudinally marked with lines of black and white. Wings, back and tail, dusky-brown; the first pretty large, extending to within an inch of the tail when closed. Tail wedge-shaped, tipped with white; its upper coverts remarkably long. Breast and belly white. Legs short, and rather stout, pale dusky; the toes barred with black.

DIVERS. (Colymbus, *Linn.*)

In these birds the bill is longer than the head, stout, straight, nearly cylindric, compressed, with the point subulate and acute; the edges bent in, sharp and entire; upper mandible somewhat rounded above, slightly curved at the point; the lower navicular and straight. Nostrils basal, lateral, concave, oblong, pervious, half covered by a membrane. *Tongue* lanceolate, fringed backwards at the base. Lores feathered. Feet large, placed far back; the tibia almost entirely drawn up into the belly: tarsus exceedingly compressed; anterior toes long, wholly palmated: hind toe small, touching the ground merely at tip, connected to the outer by a very small rudimental membrane. *Nails* short, compressed, hind one

small and acuminate. *Wings* moderate; 1st and 2d primaries longest. *Tail* very short and rounded, composed of 18 to 20 feathers.

The sexes alike in plumage. The young differing from the adult until the 3d or 4th year. They moult twice in the year without changing the colors of their plumage. The feathers thick; their colors above bright and glossy, beneath white.

Although the greater number of web-footed birds submerge, the Divers, and the succeeding genera of this great order, resort to the water as their habitual residence. They live continually upon this element, where they commonly escape our sight, because they often only elevate the head out of water an instant to respire and immediately after submerge. The birds of the present genus commonly dive to the bottom of the deepest rivers or bays, accompanying their progress with a bubbling of the air, and move their wings beneath the water as though exercising them in the air, they strike out with their feet at the same time in a diagonal direction, and dive instantaneously at the flash of a gun. Their migrations are often performed by water, preferring this method in the autumn to that of using their wings, though they fly in breeding time at a considerable elevation and with rapidity. They can scarcely be said to walk, their posture on their legs is vertical, but unable to maintain for an instant this exact balance, they fall over on the belly and supinely and slowly drag themselves over the surface of the ground by successive and painful jerks, using their wings often as a kind of oars to assist their inefficient progress, and hence their common name of Loon.* In winter they generally live out at sea in bays and inlets, usually accompanied by their young who thus associate in families. In the spring they separate in pairs, and seek out the borders of lakes and fresh water islets in which to breed in the greatest seclusion; the nest is made of coarse aquatic weeds, and the eggs are usually from 2 to 4. The young follow the mother, plunging into the water when the nest is invaded. The voice is shrill, mournful, and monotonous. They feed principally on fish, which they take under water, and devour on the surface; they also prey on aquatic animals, insects, and sometimes on vegetables or their roots.

They inhabit the northern hemisphere, retiring into the interior as well as the high boreal latitudes to breed. The species are about five.

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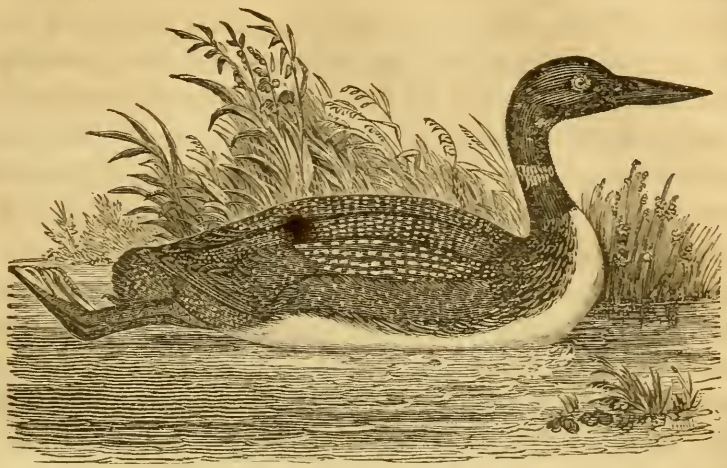
* Or *Loom*, which in the language of the Laplanders signifies lame, as they cannot walk well.



LOON, OR GREAT NORTHERN DIVER.

(*Colymbus glacialis*, Linn. Wilson, ix. pl. 74. fig. 3. [adult]. Bonap. Synops. No. 368. Rich. and Swains. North. Zool. ii. p. 474. Temm. Man. d'Orn. ii. p. 910. Northern Diver, Penn. Arct. Zool. ii. No. 439. [adult] and Imber, No. 440. [young.] *L'Imbrin*, ou *Grand Plongeon*, Buff. Ois. viii. p. 258. t. 22. Id. Pl. Enlum. 952. [a good figure of the adult.] Penn. Brit Zool. p. 139. t. *K*. 2. Phil. Museum, No. 3262. [male and young] and 3263. [female].)

Sp. Charact.—Bill about 4½ inches long from the rictus; upper mandible straight; the lower wider in the middle, grooved beneath, and recurved: tail of 20 feathers.—*Adult* black, speckled with white; beneath white; head and neck glossy black; with a white interrupted collar and gular band. *Young* wholly brownish; beneath white.

The Loon, the most common of its tribe in the United States, is a general inhabitant of cold and temperate climates, throughout the whole northern hemisphere. It is found in the north of Europe, and spreads along the Arctic coasts as far as Kamtschatka, Nootka Sound, and the mouth of the Ob. It dwells on the dreary coast of Spitz-

bergen, Greenland, Iceland, and Hudson's Bay. It abounds in all the lakes of the fur countries, where, as well as in the interior of the most northern of the States, and probably in the inland seas of the St. Lawrence along the whole Canadian line, they pass the period of reproduction. They have been known to breed as far south as the Farn Isles on the coast of Northumberland along with the Eider Ducks, with which they also associate on the shores of Labrador.* In the Hebrides they are common in the summer season, as well as in Norway, Sweden and Russia, from all which countries they seldom migrate to any considerable distance, being only accidental passengers on the coasts of the Ocean; the young only are seen, and rarely, on the lakes of Germany, France and Switzerland, but in those regions the old are unknown. In the United States, from the superior severity of the winters, the young, and even occasionally the old, are seen to migrate nearly if not quite to the estuary of the Mississippi.

The Loon, cautious, vigilant, and fond of the security attending upon solitude, generally selects with his mate, some lonely islet, or the borders of a retired lake far from the haunts of men, here on the ground, contiguous to the water, they construct their rude and grassy nest. About the 11th of June, through the kindness of Doctor T. W. Harris, I received 3 eggs, which had been taken from the nest of a Loon, made in a hummock, or elevated grassy hillock, at Sebago pond, in New Hampshire. These were about the size of the eggs of a goose, of a dark smoky olive, coarsely blotched nearly all over with umber brown spots. The males, after the period of incubation, secede from their mates, and associate by themselves in the bays and esturies near to the sea. They soon after moult, and become so

* Audubon.

bare of feathers as to be unable to rise from the water. The young, after being duly attended by the female parent, disperse with her towards the sea. Instinctively warned of the approach of frost, they avoid its consequences by slow but efficient migrations. As soon as the fish begins to fail, the young unable or unwilling to fly, are sometimes seen waddling from one pond to another, and in this situation are easily captured, as they refuse, or are incapacitated to rise from the ground. When approached, they utter a long drawn melancholy scream, like *ó ōōh*, with a shrill loud, sighing and rising note. Now and then, as if a call upon the parent, the tone is broken almost in the manner of running the finger across the mouth while uttering a sound. A young bird of this kind which I obtained in the salt marsh at Chelsea Beach, and transferred to a fish pond, made a good deal of plaint, and would sometimes wander out of his more natural element and hide and bask in the grass. On these occasions, he lay very still until nearly approached, and then slid into the pond and uttered his usual plaint. When out at any distance he made the same cautious efforts to hide, and would commonly defend himself in great anger, by darting at the intruder, and striking powerfully with his dagger-like bill. This bird, with a pink colored iris like albinos, appeared to suffer from the glare of broad day-light, and was inclined to hide from its effects, but became very active towards the dusk of evening. The pupil of the eye in this individual, like that of nocturnal animals, appeared indeed dilatable; and the one in question often put down his head and eyes into the water to observe the situation of his prey. This bird was a most expert and indefatigable diver, and would remain down sometimes for several minutes, often swimming under water, and as it were flying, with the velocity of an arrow in the air. Though at length inclined to be docile, and showing no alarm when visited, it constantly

betrayed its wandering habit, and every night was found to have waddled to some hiding place, where it seemed to prefer hunger to the loss of liberty, and never could be restrained from exercising its instinct to move onwards to some secure or more suitable asylum.

Far out at sea in winter, and in the great western lakes, particularly Huron and Michigan in summer, I have often heard on a fine calm morning, the sad and wolfish call of the solitary loon, which like a dismal echo seems slowly to invade the ear, and rising as it proceeds, dies away in the air. This boding sound to mariners, supposed to be indicative of a storm, may be heard sometimes for two or three miles, when the bird itself is invisible, or reduced almost to a speck in the distance. The aborigines, nearly as superstitious as sailors, dislike to hear the cry of the Loon, considering the bird from its shy and extraordinary habits as a sort of supernatural being. By the Norwegians its long drawn howl, is, with more appearance of reason, supposed to portend rain. Judging however from the young bird, already mentioned, this expression, like that of other fowls, indicated nothing beyond the humble wants or social communication of the species.

The flesh of the Loon is dark, tough, and unpalatable, yet the young birds are frequently seen in the markets of New York and Boston, and are therefore no doubt sometimes eaten. Some of the Russian Tartars on the Ob and the Irtisch tan the breasts of this and other water fowl, preserving the down upon them, and sewing them together, sell them for garments, and caps. The Greenlanders, as well as the aborigines round Hudson's Bay, and on the banks of the Columbia river, employ their skins as articles of dress or of decoration; and the Indians of the Missouri and Mississippi also often ornament the sacred calumet with the brilliant neck feathers of this and other species.

The length of the Loon is about 2 feet 8 or 10 inches. The head, neck, and tail coverts glossed with deep purplish-green, on a black ground. A short transverse bar on the throat, a collar on the middle of the neck, interrupted above and below, and the shoulders, white, broadly striped on the shafts of the feathers with black. Whole upper plumage, wings, sides of the breast, flanks, and under tail coverts, black; all, except the quills and tail, marked with a pair of white spots near the tip of each feather: these spots form rows, and are large and quadrangular on the scapulars and interscapulars, round and smaller elsewhere, least on the rump. *Under plumage* and inner wing coverts white; the axillaries striped down their middles with black. Bill and legs black. Irides brown, (often blood red.)

In *the young of the year*, the head, occiput, and all the inferior parts of the neck are ashy-brown; small ashy and white points upon the cheeks. Throat, fore part of the neck and the other lower parts pure white. Feathers of the back, wings, rump, and flanks, dark brown in the middle, bordered and edged with bluish-ash. Upper mandible of the bill ash-grey, the lower whitish. Iris purplish-red. Feet dark brown externally, interiorly, as well as their membranes whitish. It is then *Colymbus immer*, Gmel. i. p. 568. sp. 6.

BLACK-THROATED DIVER.

(*Colymbus arcticus*, Linn. Lath. Ind. ii. p. 800. sp. 4. Bonap. Synops. No. 369. Temm. ii. p. 913. Rich. and Swains. North. Zool. ii. p. 475. Black-throated Diver, Penn. Arct. Zool. ii. p. No. 444. The Speckled Diver, or Loon, Edwards. pl. 146. [adult from Hudson's Bay.] *Le grand Plongeon*, Buff. Pl. Enlum. 914. [young]. Naum. vög. Nachtr. t. 30. f. 60. [adult male].)

Sp. Charact. — The bill from the rictus about 3½ inches long; the upper mandible slightly curved; lower not wider in the middle than at base, and without groove beneath; tail of 18 feathers. — *Adult* black, slightly marked with white, the back unspotted; beneath white; head greyish-brown; the neck beneath glossy black, with a stripe on each side of it marked with white. *Young* ashy-brown; beneath white; a blackish band often on the sides of the neck.

This species, common to the hyperboreal parts of both continents, is much more rare in the United States than the preceding, and though frequent near the shores of Hudson's Bay is seldom seen in the interior of the fur countries. It abounds in the northern parts of Europe, Norway, Sweden, and Denmark, in the inland lakes of Siberia, especially those of the Arctic regions; it is also seen in Iceland, Greenland and the Feröe Isles. They are held in superstitious regard by the Norwegians, who believe their cry to portend rain. The skins of this and other species, being tough and impervious to wet, are used by the Indians and Esquimaux as well as by the Norwegians for articles of dress.

The Arctic Diver is an autumnal and winter bird of passage in England, Germany and Holland, more rare upon the interior lakes of France; but common upon those of Switzerland. They live on fish, frogs, insects and aquatic plants; nest in the reeds and herbage upon the borders of lakes and in marshes, preferring those which are much intersected by waters; they are said to lay 2 eggs, which are brown, marked with scattered black spots.

The length of the Black Throated Diver is about 26 inches; the wing 11 inches. The forehead, back, wings, tail, flanks, and thigh feathers, are black. The scapulars and shoulders marked with transverse white spots, and the wing coverts with round spots. Hindhead and back of the neck ash-colored; sides of the latter and of the breast white, streaked with black. Fore part of the neck black, reflecting purple and green. The under tail coverts barred with black: the rest of the under plumage white.

The *young* closely resemble those of *C. glacialis*, but may be distinguished by their inferior size, and the character of the bill as already given.

RED-THROATED DIVER.

(*Colymbus septentrionalis*, Linn. Lath. Ind. ii. p. 801. sp. 5. Bonap. Synops. No. 370. Temm. Man. d'Orn. ii. 916. Rich. and Swains. North. Zool. ii. p. 476. Vieill. Gal. des. Ois. 282. [adult.] Red-Throated Ducker or Loon, Edwards. pl. 97. Penn. Arct. Zool. ii. No. 443. *Le Plongeon à Gorge Rouge*, Buff. Pl. Enlum. 308. [adult]. *Colymbus striatus*, *C. stellatus*, and *C. borealis*, [different states of the young]. *Le Petit Plongeon*, Buff. Ois. viii. p. 254. tab. 21. Id. Pl. Enlum. 992. [young]. Speckled Diver, Penn. Brit. Zool. p. 139. t. *K.* [young].)

Sp. Charact. — The bill (from the rictus) about 3 inches long, slightly recurved; the edges much inflected; the lower mandible grooved: tail composed of 20 feathers. — *Adult* blackish, beneath white, head and neck lead-colored; the neck beneath with a long reddish stripe. *Young* ashy-brown, with minute marginal spots on the dorsal plumage; beneath white.

This species is again a general inhabitant of the northern regions of both continents; from whence few migrate to any great distance, except the young, and these are seen not uncommonly along the coasts of the United States in the course of the winter. According to Richardson, they frequent the shores of Hudson's Bay up to the extremity of Melville Peninsula, and are also abundant on the interior lakes where they breed. The eggs are 2, laid on a little down, by the margin of the water, and are of a pale oil-green color, 35 lines long by 21 wide. Temminck however, describes the eggs as of an olive-brown, marked with a few brown spots. Mr. Audubon found them nesting on the coast of Labrador near small fresh-water lakes. The food is similar with that of the preceding species. Fleming says that they breed in Zetland and the Orkneys. In Greenland and Iceland they also lay among the herbage on the shores contiguous to water, and make a nest of moss and grass, lining it with down. The young of this species, called the

Cobble, is frequently seen in England in the winter, in bays and inlets, and sometimes in fresh water rivers and lakes. In the river Thames it attends the arrival of the sprats on which it feeds, and is hence known to the fishermen by the name of the Sprat Loon. From their diving habits they are frequently taken in the fishing nets to which they are attracted by their contents. They fly well, and dive and swim with remarkable dexterity, and while proceeding in the air are said to be sometimes very noisy. At Hudson's Bay the young fly before the end of August, and the whole commence their migrations in the course of September. They are common also to the Baltic and the White Sea, and are found in the inclement regions of eastern Asia, as in Kamtschatka and Siberia.

The length of the Red-Throated Diver is about 29 inches; the wing 11 inches 3 lines; the bill above 2 inches 2 lines; from the rictus, 3 inches 1 line; tarsus 3 inches; middle toe the same length. The head, chin, and sides of the neck, lead-color; centres of the plumage on the top of the head blackish. Front of the neck occupied by a stripe that widens downwards, of rich cochineal or purplish-red. Hind head, back of the neck, shoulders, and sides of the breast, greenish-black, striped on the margins with white. Dorsal plumage and wings pitch-black; narrow space under the wings and under tail coverts also black, with whitish borders. Under plumage and inner wing coverts white; the axillary feathers striped on the shafts with blackish-brown. Bill black. Legs blackish-green. — Adult individuals vary much in length, some being 4 inches shorter than the above. *Young* birds have the dorsal plumage interspersed with minute marginal spots, there being a pair near the tip of each feather.

In all the following genera the feet are 3-toed.

GUILLEMOTS. (Uria, *Briss.* Alca, *Linn.*)

With the bill moderate, or short, robust, straight, acute and compressed, the base feathered; upper mandible convex, somewhat curved at the point, notched; the lower slightly navicular; the margins of both sharp and inflected. Nostrils nearly basal, lateral, concave, longitudinal, linear, pervious, covered partially by the feathers of the front advancing far on the bill. *Tongue* linear, acute, entire. *Head* depressed, narrowed before, and rounded behind, neck short. Feet placed very far back, the lower extremity only of the tibia apparent; tarsus one fourth shorter than the middle toe, slender, compressed, carinated anteriorly: webs not very broad. *Nails* compressed, somewhat curved, acute; the middle one larger, dilated internally into a sharp edge. *Wings* short, narrow and acute; the 1st primary longest. *Tail* very short, rounded, composed of 12 feathers.

The plumage of the sexes similar, but the female smaller. The young differing from the adult, but almost similar to their winter dress. They moult twice in the year, changing the colors of their plumage; which is generally in masses of black and white.

The Guillemots and other birds of this natural order, forming a sort of final link in the chain of the feathered tribes, with their ignoble mein, and furtive habits, seem condemned to dwell, or rather to animate the most dreary wastes of the Arctic and polar regions. Surrounded by an eternal winter, and dwelling amidst barriers of ice which deny existence to almost every other animal, they seek refuge on the bosom of the ocean, where they perpetually reside, and only relinquish this their natural element, at the important season of reproduction. Under the brilliant sky of the still chilling hyperboreal summer, they take possession of the desert islets, and lofty and precipitous rocks near the sea, in whose clefts they are seen crowding with discordant din, and swarming like bees. In haste to secure their precarious progeny, they sit immediately on their only egg, and, without the trouble or delay of providing a nest, they hatch upon the naked rock. The ocean is their softest bed, they

scarcely seek repose upon the land, and their young, as themselves, fed on fish, find an inexhaustible fare in their favorite element, to which they are instantly conducted as soon as delivered from the prison of their shell and their irksome exposure on the rocks. Like the Divers, whose necessities scarcely call them to the land, they walk with the utmost difficulty, and then only across some barrier of ice; but in the water they are as alert as they are impotent on the ground. They swim and dive in a manner wholly unrivalled; pursuing their finny prey as if flying in the air, exercising their wings in the water no less than their oar-like feet; they dive even beneath the ice, and thus find means to subsist in the most inclement season. In the extremity of the terrific winters which reign in their natal regions, they, however, sometimes find a necessity to migrate to the open seas of the colder parts of the continent, but their presence is constantly rare in moderate climates, even in the winter. In storms they seek the shelter of their chosen rocks, or the caverns of the ice-bergs. Their flight, though short, is rapid, and just elevated above the surface of the waves; they traverse and climb the rocks on which they dwell by leaping and fluttering from point to point. Their principal food at all periods consists of fish; and notwithstanding this marine diet, the young and the eggs are esteemed as food. The eggs, in all this family of Alcadæ, are remarkable for the thickness and dulness of the shell.

The Guillemots principally inhabit the Arctic seas, and the coldest of climates, from whence they migrate in winter to more temperate coasts. The genus consists at present of but 5 well ascertained species common to the whole northern hemisphere.

Subgenus. — Uria. *Bonap.*

With the bill longer than the head, straight, compressed, subulate, even. Nostrils linear.

† *Extreme tip of the upper mandible slightly drooping.*

The colors black, presenting many changes in the moulting: the dress of the adult, is said, to be only acquired in the 4th year. The eggs, in the birds of this section are one to three.

BLACK GUILLEMOT.

(*Uria grylle*, Lath. Ind. ii. p. 797. sp. 2. Temm. Man. d'Orn. ii. p. 925. Bonap. Synops. No. 371. Rich. and Swains. North. Zool. ii. p. 478. Vieill. Gal. des Ois. pl. 294. Black Guillemot, Penn. Arct. Zool. ii. No. 437. Black Greenland Dove, Edwards. pl. 50. [small figure]. Spotted Greenland Dove, Ibid. [front figure, a moulting individual]. Spotted Guillemot, Penn. Brit. Zool. ii. pl. 83. fig. 2. *Uria baltica* and *U. grylloides*, Brunn. Orn. Boreal. p. 28. No. 114. 115, and 116. [moulting individuals]. *U. lacteola*, Lath. ii. sp. 3. (*Cephus lacteolus*, Pallas.) [an albino?].)

Sp. Charact. — A large white space on the middle of the wings: the feet red. — *Summer plumage* entirely black, wing coverts white. *Winter dress*, black, with the cheeks and beneath white.

The Black Guillemot is a general inhabitant of the whole Arctic seas of both continents. It has even been called the dove of Greenland, being common in that country, as well as on the still more dreary coasts of Spitzbergen. In the hyperboreal seas and straits of America they also abound, from the inclement shores of Melville Island down to Hudson's Bay, and Labrador. According to Mr. Audubon they also breed on the isle of Grand Manan in the Gulf of the St. Lawrence. Like the other Guillemots they are entirely marine, never going inland, and rarely seek the coast but for the indispensable purpose of reproduction. In the cold and desolate regions of the north, abandoned by nearly every other animal, the Guillemots, though in diminished numbers, find means to pass the winter; frequenting at such times the pools of open water, which occur even in these high latitudes amongst the floes of ice. Others, but in small numbers, and those probably bred in lower latitudes, venture in the winter along the coasts of the United States. In Europe they are also seen at this season along

the borders of the Atlantic. They are alike indigenous to the western side of the American continent, and occur in Kamtschatka. At St. Kilda, on the Bass isle, in the Frith of Forth, in the Farn islands off the coast of Northumberland, and on some parts of the coast of Wales, particularly near Tenbeigh, they are known to breed.

They fly commonly in pairs, with considerable rapidity, almost grazing the surface of the sea, but at other times they proceed in a more elevated course. Their note, according to Audubon, is a contracted whistle. They nestle sometimes under ground, but more commonly in the deep and rocky fissures of inaccessible cliffs and bold headlands projecting into the sea. To avoid the access of water to the eggs, they commonly pile together a nest of pebbles, beneath which the rain water or melting snow passes off without any injury or inconvenience. The eggs are from 1 to 3, white or whitish, spotted pretty equally with dark brown. To escape becoming the prey of the foxes who incessantly watch for them, the young, when pushed to the necessity, throw themselves without difficulty from their impending eyrys into the sea. They dive with great facility, and feed upon small fish, but particularly on shrimps, small crabs, and other crustacea, and marine insects. They show considerable vigilance on being approached, and are much more shy and wary than the other Guillemots. The eggs, (called improperly those of the Noddy,) are brought sometimes in the small coasting vessels to Boston market.

The length of the Black Guillemot is about 13 inches; the tail 2 inches; the wing 6 inches 4 lines; the bill above, about 1 inch 1 line; the tarsus 1 inch 2 lines. Greenish-black above; brownish-black beneath. Border of the wing and quills pitch-black. Middle and greater coverts, inner bases of the quill feathers, and all the under wing coverts, white. Bill black; inside of the mouth and feet scarlet. The bill compressed, extreme tip of the upper mandi-

ble slightly drooping, not notched; that of the lower mandible excavated or sloping. The nostrils are short, narrow, basal slits near the commissure. No hind toe.

Winter plumage, with the head, neck, whole under plumage, scapulars, rump, mirror of the wings, and tips of the dorsal feathers white. A crescent shaped patch before the eye, the border of the wing, the primary coverts, all the quills, the tail, and tips of the scapulars, black. — In the spring and beginning of summer the plumage is variously mottled, the summer dress being complete at different periods in different individuals, but rarely before the beginning of July.

In the young of the year, the throat, breast and all the lower parts are pure white. Summit of the head, nape, lower part of the neck and sides of the breast blackish, spotted with grey and white. Back and rump dull black. Some feathers of the scapulars and of the rump tipped with whitish-ash. Wings black, except the mirror which is white, but marked with blackish and cinereous spots. Interior of the mouth and feet livid reddish. Iris blackish-brown.

MARBLED GUILLEMOT.

(*Uria marmorata*, Lath. Synops. vi. p. 336. pl. 96. Bonap. Synops. No. 372. Marbled Guillemot, Penn. Arct. Zool. 4to. ii. p. 230. pl. 22. No. 438. Young of *Uria grylle*, Vieill.)

Sp. Charact. — Brown, undulated with ferruginous; beneath dusky, spotted and barred with white; feet yellow; bill black, one inch long.

This species, yet but very imperfectly known, was brought from Prince William's Sound, on the western coast of America. Another specimen was also obtained on the coast of Kamtschatka; this individual formed part of the collection of the late Sir Joseph Banks. Of their habits we are wholly ignorant.

The length of this species appears to vary from 9 to 10 inches. The bill is compressed a little on the sides, and rather slender. Crown of the head dusky. Upper part of the body transversely

barred with tawney, chestnut, and blackish-brown, as far as the tail, which is short and black The wing coverts dusky, some of the larger edged with white. Quills black. Chin and throat dusky, mixed with irregular blotches of white; sides of the neck plain dusky; breast, belly, and vent, irregularly barred and waved with dusky and white, changing to the last at the vent. Legs and toes pale orange; the webs and claws black.

†† *Both mandibles curved at the point.*

Beneath white at all times; the throat only changing from black to white in moulting. The young obtain the adult plumage in the 2d year. These lay but one egg.

FOOLISH GUILLEMOT, OR MURRE.

(*Uria troille*, LATH. GMEL. Syst. sp. ii. BONAP. Synops. No. 373. TEMM. Man. d'Orn. ii. p. 921. RICH. and SWAINS. North. Zool. ii. p. 477. *Colymbus troille*, LINN. Faun. Suec. No. 149. Foolish Guillemot, EDWARDS. pl. 359. fig. 1. PENN. Arct. Zool. ii. p. 229. [4to.] No. 436. Lesser Guillemot, IDEM. ii. p. 231. A. *Le Guillemot*, BUFF. Ois. ix. p. 350. ID. Pl. Enlum. 903. [adult in summer]. PENN. Brit. Zool. p. 138. t. *H. Uria Suarbág*, and *U. ringuia*, BRUNNICH, Orn. Boreal. p. 27. No. 110. and 111. [winter plumage]. *U. lomvia*, IBID. No. 108. LATH. Ind. ii. sp. 1. [adult in summer].)

SP. CHARACT. — Blackish, beneath white; secondaries white at tip; feet dusky; bill longer than the head, much compressed throughout, upper mandible four times as long as broad. — *Adult*, with a black stripe behind the eyes. *Summer plumage*, with the whole head jet black. The *young* duller, and without the black stripe behind the eye.

THE Foolish Guillemot, so called for their fatuity in the breeding season, in allowing themselves sometimes to be seized by the hand, or killed on the spot without flying from their favorite cliffs, is another singular and common inhab-

itant of the high northern latitudes of both continents. In Europe they extend their swarming colonies as far as the ever wintry coast of Spitzbergen, they are also seen in Lapmarck, and along the White and Icy Sea, as far as Kamtschatka. Along the whole coast of Hudson's Bay, Labrador, and Newfoundland, they congregate in swarms. They also breed in the Orkneys, and in more temperate climates, when the local situation happens to suit their particular habits and instinct; thus, they are extremely numerous in the desert isle of Priestholm, contiguous to the island of Anglesey, on the Godreve rocks, not far from St. Ives, in Cornwall, the Farn isles off the coast of Northumberland, and the cliffs of the Isle of Wight and of Scarborough in Yorkshire. Occasionally the young are seen along the coasts of the United States; but the great body of the species, in America, according to Audubon, winter in the Bay of Fundy, where they find an open sea, congenial rocks, and a cool temperature.

They begin to assemble on their customary cliffs, in England, early in May, and crowd together in such numbers, that it is not uncommon to see hundreds sitting upon their eggs on the ledge of a rock, all in a line, and nearly touching each other. They lay but a single egg, on the flat and bare rock, without any precaution to protect it or the progeny arising from it by any shelter or convenience at all like a nest. It is of a palish green, blotched and marked with black and deep umber-brown. They rarely quit their eggs unless disturbed, and are fed during the time, chiefly with small fish or other marine productions, by the male. In inaccessible places, or where seldom disturbed, it is with difficulty that they are roused to flight, and may then sometimes be taken by the hand; others flutter into the water, below the cliffs on which they nestle, and seem in fact to try every expedient but that of flight. They are at all times

extremely expert in diving, using their pinions as oars instead of the feet, thus flying as it were in the water, as well as in the air. After the young are hatched, and capable of migrating, by the close of August, they all disappear from the shores of Britain, and are seen in winter on the coasts of the Baltic, Holland, France, and as far as Italy along the borders of the Atlantic. Many of the young as well as old birds of this species, also bred in colder latitudes, migrate in winter along the coasts of Norway, Holland, and England, seeming as it were to fill up the place of those which have left their native shores for still milder climates.

The inhabitants of Kamtschatka kill the Murres in great numbers for the sake of their flesh, though it is said to be tough and ill tasted, but more especially for their skins, of which, as of other fowls, they make garments; but the eggs are every where accounted as a delicacy. It is called by the Welsh *Guillem*, and in the southern parts of England Willock.

The length of the Murre is about 17 to 18 inches, (the female is said to be somewhat smaller;) the length of the tail 2 inches: of the wing about 7½ inches; the bill from above, 1 inch 10 lines; the tarsus 1 inch 3 lines. The head and front of the neck rich pitch-black inclining to umber. The dorsal plumage and wings greyish-black. Tips of the secondaries and under plumage white; that color forming a rounded projection into the black of the neck. Bill and legs black. Margins of the eye-lids and a suture from behind the eye, white. In other specimens from the same locality the eye-lids and suture are black, as in the following species. Bill longer than the head, considerably compressed, commissure nearly straight; lower mandible acutely notched at the tip.

In *winter* the under parts of the head and throat are white, and the black of the dorsal plumage loses its brownish tinge.

In the young of the year, the bill is shorter, cinereous, and yellowish at the base; the black above is shaded with ashy-brown. The longitudinal band behind the eyes is also less distinct, and blends in ashy spots with the white of the sides of the occiput; ashy-brown

also predominates on the lower part of the neck, and the white of the lower parts is less pure. The tarsus and toes are of a livid yellowish, and the webs are brown.

LARGE-BILLED GUILLEMOT.

(*Uria Brunnichii*, Sabine, Greenland Birds, p. 538. No. 14, &c. Temm. Man. d'Orn. ii. p. 924. Bonap. Synops. No. 374. Rich. and Swains. North. Zool. ii. p. 477. *U. Francsii*, Leach. *U. troille*, Brunn. Orn. Boreal. No. 109. nec. Lath.)

Sp. Charact. — Reddish-black; beneath white; secondaries white at tip; feet greenish; bill as long as the head, dilated and broad at base; upper mandible three times as long as broad. — *Summer plumage*, with the whole head black.

This is another inhabitant of the glacial seas of the hyperboreal regions of both continents; being very common in Greenland, Spitzbergen, Davis' Straits, Baffin's Bay, and in the remotest parts of Arctic America that have yet been visited. Occasionally, the young, and more rarely the old, are also seen on the coasts of the Northern and Middle States in the course of the winter. Its habits, as distinct from the preceding, with which it has generally been confounded, are unknown.

The length of the species is about 18 inches; the tail 2 inches 9 lines; the wing 8 inches 3 lines; the bill above, 1 inch 2 lines; the bill to the rictus 2 inches; tarsus 1 inch 4 lines; middle toe 1 inch 7 lines. The top of the head and upper plumage reddish-black. Head beneath the level of the eye, and the front of the neck, pitch-black. Tips of the secondaries and the under plumage white; the white indenting the black of the base of the neck in an acute angular form. Bill bluish-black, paler at the base. Rictus bright yellow. The bill wider at the base, shorter, and less compressed than in *U. troille*. Under mandible higher, with a much shorter and more prominent gonys; commissure more curved. A suture on the plumage behind the eye as in *U. troille*. The *winter plumage* undergoes changes

analogous to those which take place in *U. grylle*, which continue until the succeeding June. In the *young* the bill is more slender.

Subgenus. — Mergulus. *Ray, Bonap.*, &c.

With the bill very short, a little curved, conic-convex, nearly as broad as high; both mandibles notched at the tip; the upper one grooved; *nostrils* basal, semicircular; tongue thick and entire. *Wings* shorter than the tail; the 1st and 2d primaries about equal. The outer and middle toes of the same length.

This is the smallest race of the Natural Order to which it properly belongs. Their flight is rapid and long sustained, notwithstanding the shortness of the wings; they proceed as much in the air as in the water; and walk also better than the other species. They breed in society, and lay but a single bluish-white egg. Their food consists principally of small crustacea, which they collect sometimes under the tongue.

LITTLE AUK, or SEA DOVE.

(*Uria alle*, Temm. Man. d'Orn. ii. p. 928. Bonap. Synops. No. 375. Rich. and Swains. North. Zool. ii. p. 479. Little Auk, (*Alca alle*,) Wilson, ix. p. 94. pl. 74. fig. 5. Penn. Arct. Zool. ii. No. 429. *A. alle*, Linn. Faun. Suec. No. 142. Brunnich, No. 106. Small Black and White Diver, Edwards, Glean. pl. 91. Buff. Pl. Enlum. 917. [winter dress]. Penn. Brit. Zool. p. 137. t. *H.* 4. fig. 1. *Mergulus alle*, Vieill. Gal. des Ois. 295. [adult]. Greenland Dove, Albin, i. t. 85. *Rot-ges*, or *Rottet*, Marten's Spitzb. p. 85. *Uria minor*, Briss. vi. p. 73, 2. Phil. Museum, No. 2978.)

Sp. Charact. — Black; beneath and tips of the secondaries white; under the wings black; bill and feet black; bill very short, half as long as the head, a little curved. — *Summer plumage*, with the whole head black.

This neat and singular little bird, with a quaint resemblance to the Columbine tribe, is known to mariners by the name of the Greenland Dove; and in this vicinity it is also called the Pigeon Diver. It inhabits, however, a region where the gentle cooing of the Dove is never heard. It dwells far within the Arctic circle, approaching the very

pole, having been obtained by Dr. Richardson from the dreary coast of Melville Island, in the latitude of 75° and 76°, in August, where they were seen by thousands. It is probably almost the last bird seen within the desolate and glacial boundaries of the earth. In Greenland and Spitzbergen they congregate in great flocks; and in the depth of winter, watching the motion of the ice in the offing, when it is broken up by storms, they crowd by thousands into every opening fissure or flaw, in order to snatch up the marine productions on which they subsist. Mr. Audubon found a few breeding on the coast of Labrador. In Newfoundland they are called the Ice-Bird, being the sure harbingers of severe weather, as they seldom proceed far from their inclement natal regions, except when accidentally driven to shore by storms. In the United States their appearance is always solitary, being mere wanderers as they are also along the milder coasts of Europe. Their uniform predilection is for the hyperboreal regions of their nativity, and they even fatten in storms when not overwhelmed by their fury; as, at these times the small crustacea, and marine insects on which they feed are cast up and brought to the surface in greater abundance. At times they appear to fly well, as appears by their extensive accidental migrations, having sometimes been met with considerably inland. The water, however, being their more natural element, they dive with great facility, and are often observed dipping their bills into the water as if drinking.

Those which have been obtained in this vicinity, usually in the depth of winter, have sometimes been found in Fresh Pond, and so lean and exhausted, by buffeting weather and fatigue as to allow themselves to be quietly taken up by the hand.

Like other species of the genus, and the family generally, associated with the Razor-Bills, they seek out for their breed-

ing places the most inaccessible impending cliffs which project into the ocean, and in their clefts, without any artificial nest, deposit their single egg, which is of a pale bluish-green, commonly without spots, but sometimes scattered with a few small touches of blackish. At this time probably, they are heard to utter their uncouth and monotonous call of *rottet*, by which as a name, they are known to the Dutch navigators who have penetrated to their dreary and remote haunts.

Captain Ross's party met with these birds in great numbers on the west coast of Greenland, where they were shot daily, and supplied to the ship's company, who found them very palatable, and free from any fishy taste, though their food consists chiefly of a small species of crab *(Cancer)* with which the Arctic seas abound.

The length of the Little Guillemot or Auk is about 9½ inches; the tail 1 inch 9 lines; the wing 5 inches; the bill above, half an inch; from the rictus 11 lines: the tarsus 9 lines; the middle and outer toes 11 lines. The top of the head, dorsal plumage, tail, wings, and the sides under them, velvet-black. Under surface of the head, throat, upper part of the breast, and thighs, pitch-black; the rest of the under plumage, the tips of the secondaries, and lateral edges of the scapulars, white; that color joining the black of the breast in an even line. Bill black. Legs brownish.

In *winter*, the front of the neck is whitish; the change taking place towards the end of September. It is said sometimes to vary to quite white, and is seen occasionally with a reddish breast.

PHALERIS. *Temm.* (Alca, *Linn.*)

With the bill shorter than the head, dilated on the margins, almost quadrangular, notched near the tip; upper mandible depressed on the sides, convex above; curved at the point: lower somewhat compressed, angular beneath, truncated at tip. Nostrils medial, marginal, linear, pervious, half closed by a naked membrane.

Tongue thick and entire. Capistrum advancing but little on the base of the bill. Feet placed very far back; the tibia almost entirely retracted into the belly; tarsus slender, compressed, carinated on both sides; toes long and slender, middle toe longest; webs full and entire; *nails* incurved, acute. *Wings* short, acute, 1st primary longest. *Tail* of 14 feathers, the middle and outer being shortest.

The sexes alike in plumage; but the young differ from the adult. They moult twice in the year, but undergo little or no change of color.

These birds reside throughout the year in the hyperboreal regions, and only migrate to short distances in the severity of the winter. They congregate in flocks, living generally out at sea, swimming about among the ice with ease and dexterity, but retiring usually at night to the clefts of the neighbouring rocks, or into burrows which they dig with the aid of their bill and feet. In these holes and burrows, without any preparation, they deposit their only egg; and at such times probably, are so much infatuated by the duties of incubation as to allow themselves to be easily killed or taken by hand. Like the preceding, they feed on marine productions exclusively, such as crustacea, mollusca, and other small animals of the sea.

These inhabit the Arctic seas between Asia and America. The genus is composed of about 3 species.

PARROQUET AUK.

(*Phaleris psittacula*, Temm. Bonap. Synops. No. 376. *Alca psittacula*, Pallas, Spicil. Zool. fasc. v. p. 15. tab. 2. [adult]. Lath. Ind. sp. 8. *A. tetracula*, Pallas, sp. Zool. fasc. v. p. 23. t. 4. [young]. Perroquet, and Dusky Auk, Lath. Synops. v. t. 95. fig. 2 and 3, the head. Penn. Arct. Zool. ii. No. 433 and 435.)

Sp. Charact. — Black; belly white; a line behind the eyes, and a spot above, white; ridge of the bill compressed. — *Adult* with the bill red. In the *young* the bill is yellowish-dusky.

These singular birds inhabit the coast of Kamtschatka, the Kuriles and other islands towards Japan as well as contiguous to America, and the western shores of this conti-

nent. They are very abundant, and are seen swimming and diving in flocks, but seldom, unless tempest driven, go far from the rocks to which they resort at night. They are said to be extremely artless, so that the natives take them with ease, sometimes, merely by placing, near their burrows or holes a garment with large sleeves distended, into which they creep as into their customary retreats, and thus become an easy prey. Being constantly seen on dangerous and precipitous coasts, they sometimes afford a timely warning to the mariner of the approach of rocks or shoals, by seeking out the refuge of his vessel, which they sometimes mistake for their accustomed lodging. They lay one large egg, about the middle of June, almost the size of that of a common hen, being whitish, or yellowish, spotted with brown, dusky or yellow, and is esteemed as a delicacy. The young are sometimes seen solitary, wandering out at sea, and are remarkably stupid and awkward. They can scarcely fly or stand, from the shortness of their wings, and the posterior position of their retracted legs, and they depend for subsistence wholly on their swimming and diving, at which they are remarkably expert. Their flesh is sometimes eaten, but is very little esteemed, except by the half famished natives of those dreary climates.

The Perroquet Auk or Phaleris, is about 11 inches long. The bill deep red. A white spot in the middle of the upper eye-lid. From the hinder part of the eye springs a slender tuft of white feathers, which hang loosely on each side of the neck. The head, neck, and upper parts are black, inclining to ash on the fore part of the neck. The under parts from the breast are white; thighs dusky. Wings extending to the end of the tail, which last is very short. Legs dull yellow; the webs brown.

In the *young*, the black of the upper plumage on the head and nape is varied with some obscure ferruginous tints. Below cinereous, whitish near the vent. The tail tipped with ferruginous. Legs livid.

CRESTED PHALERIS.

(*Phaleris cristatella*, Temm. Pl. Color. 200 [adult]. Bonap. Synops. p. 426. (in a note). *Alca cristatella*, Pallas, Spicil. Zool. fasc. v. p. 18. tab. 3. Lath. and *A. pygmæa*, Ibid. *A. cristatella*, Vieill. Gal. Ois. pl. 297. (adult). Crested, or Flat-Billed Auk, Lath. Synops. iii. pl. 95. fig. 4. [the head]. Penn. Arct. Zool. ii. No. 434. Black *Stariki*, Hist. Kamtschat.)

Sp. Charact. — Blackish, beneath lighter, the rump ash-colored; a frontal tuft of 6 or 8 feathers curling over the bill; sides of the head ornamented with long slender white feathers; ridge of the bill scarcely compressed, lower mandible with a groove each side from the throat. — The *young* black, beneath paler; the head without tuft; the bill black.

This species, discovered by Steller, inhabits the seas and islands betwixt Japan and the north-eastern coast of Asia, especially Kamtschatka, and were seen in multitudes about Bird Island, between Asia and America, and no doubt visit the contiguous western shores of America. They roost and nest in burrows and fissures of rocks on shore, near the sea, and are at such times so tame as to allow of being taken by hand.

The Crested Auk is about 12 inches long. The bill resembles that of the Puffin, but the upper mandible is more hooked at the tip: at the angle of the mouth hangs a callous flap, the color of that and the bill crimson, the tip yellow. On the front an upright crest of long feathers curving forwards. Beneath the eyes a line of white, and behind them a streak composed of 4 or 5 slender white feathers. Above black, hoary on the rump, some ferruginous brown spots on the back. Beneath dusky brown. The wings extend to the base of the tail, which is black; the outermost feather but one ferruginous at tip, the outer marked with indistinct dots of white. Legs livid; the webs dusky.

Note. The *Alca antiqua* of Latham, and Pennant, Arct. Zool. No. 430, is apparently a third North American, and Asiatic species,

having been found on the coast, and around Kamtschatka and the Kurile islands.

The Ancient Auk is about 11 inches long. The bill an inch and a quarter; the base white; from the nostrils to the extremity black. The feathers advance far forward on the bill, and the eyes are set far back apparently in the head. Head, sides, and throat deep black. The upper part of the body and wings dusky black. The under part pure white. Just behind the eyes spring several long narrow white feathers, which lie on each side of the neck, meeting at the lower part and forming a crescent, these are somewhat curled at the origin, where they are most numerous, and can perhaps be erected at will, in the manner of a ruff. Legs 1¼ inches long and dusky. The tail black, short and rounded.

CERORHINCA. Bonap.

With the bill shorter than the head, much compressed, longer than high, even, the base not much feathered, covered by a callous membrane, surmounted by a long, blunt, horn-like process arising from the base of the bill; both mandibles curved and slightly notched at tip; the lower angular beneath, acute; the edges sharp, in the upper mandible dilated, in the lower much bent in at the base. Nostrils situated beneath the ear, marginal, linear, pervious, half closed by the membrane. Tongue short and slender. Head very round, the orbits feathered. Feet placed very far back; the tibia almost wholly retracted into the abdomen; tarsus moderately compressed, rough behind; toes long and slender; webs entire: nails curved, acute, the middle one largest. *Wings* short and slender, 1st primary a little the longest; the secondaries very short. Tail very short, of 14 rounded feathers.

The changes and habits most probably similar with those of the allied genera.

It inhabits the coast and the sea between America and northern Asia, and has hitherto been obtained only from the western side of this continent.

WESTERN CERORHINCA.

(*Cerorhinca occidentalis*, Bonap. Synops. p. 428. No. 377. *Phaleris cerorhinca*, Ibid. in Am. Orn. MSS. ined.)

Sp. Charact. — Blackish, belly whitish; a few slender, elongated white feathers at the corners of the eyes and mouth; bill yellow.

According to the Prince of Musignano, from whom we derive all we know concerning this rare bird, it is an inhabitant of the western coasts of North America.

PUFFINS. (Mormon, *Illig.* Alca, *Linn.*)

With the bill shorter than the head, much compressed, higher than long, at base as broad as the head, transversely and obliquely grooved on the sides, covered at base by a wrinkled, callous membrane: both mandibles much curved and notched; the upper with a sharp ridge, rising higher than the front: the lower a little shorter and obtuse; angles of the mouth margined with an extensible membrane. Nostrils near the cere, marginal, long, linear, obsolete, almost entirely closed by a naked membrane. Tongue short, compressed, and very acute. The head very round; the orbits naked; neck short and thick. Feet placed very far back; the tibia almost wholly retracted; tarsus rather slender, carinated above and behind; webs slightly indented; nails much curved, acute, middle one largest, the inner one most curved. *Wings* short, slender and acute; the 1st primary as long, or a little longer than the 2d. Tail short, of 16 feathers, the middle and outer shortest.

The sexes alike in plumage; and the young differ but little from the adult, except in the smaller and smoother bill. They moult twice in the year, but the colors undergo very little change. The young are at first covered with a long down.

The Puffins inhabit the cold and hyperboreal regions, associating in large flocks, keeping at no great distance from the shores, and

retiring at night and in stormy weather into burrows or clefts of rocks, in which also they breed in dense societies, generally digging out holes in which to nest with the aid of their bill and claws; laying but a single large egg: they are affectionate parents, and boldly defend their young. They are seen flying among the rocks only when engaged in feeding their brood; after they are reared, the whole community often migrate to other places, and in winter they partially proceed to milder climates. They swim and dive with the utmost dexterity, and walk better than the allied genera, though not well; their flight is also short and contracted, they skim low over the water, assisting their progress by striking the surface with their feet, and rarely rise to any greater height. They feed on crustacea, mollusca, and other small marine animals, as well as on some sea-weeds, and cut their food with their sharp bill previous to swallowing it.

The Puffins are found in the high latitudes of the whole northern hemisphere. There are only 3 well ascertained species, and the whole exist in North America.

TUFTED MORMON, OR PUFFIN.

(*Mormon cirrhatus*, Temm. Bonap. Synops. p. 429. No. 378. *Alca cirrhata*, Pallas, Spicil. Zool. fascic. v. p. 7. tab. 1. Lath. 3. Tufted Auk, Penn. Arct. Zool. ii. p. 225. No. 432. . Buff. Pl. Enlum. 761. *Fratercula cirrhata*, Vieill. Gal. des Ois. pl. 296. [adult].)

Sp. Charact. — Blackish, quill shafts white; eye-brows white, pendently tufted behind; the bill moderately compressed, furnished at base with a horny sheath, upper mandible only, grooved. — In the *young* the bill is smooth, and the head destitute of ornaments.

This singular species inhabits the shores of Kamtschatka, the Kurile and other intervening islands between Asia and America, on the western coast of which they are also not uncommon in the winter. According to Mr. Audubon, an individual of this species has been killed at the mouth of Kennebeck river, in Maine. In its manners it resembles

the Puffin. Passing the day chiefly at sea, in the vicinity of the rocks, into whose clefts, or the burrows they construct for themselves, they retire at night; these also are their resorts for breeding, and different from others of this tribe, are said to make a nest of marine weeds lined with feathers, in which they deposit a single white egg in the latter end of May or beginning of June. They are monogamous; and are said to bite fiercely when taken. Their food consists of small crustacea, crabs and shrimps, as well as shell-fish which they force from the rocks with their powerful bills.

The beautiful silky lateral tufts of feathers which ornament the head of this bird are greatly esteemed by the rude natives as an object of decoration. Their skins are employed by the inhabitants of Kamtschatka as an article of clothing, for which they are fitted by seaming together. The eggs are also commonly eaten, but the flesh is hard and insipid.

The Tufted Mormon, is about 19 inches in length; the bill 1¾ inches, and the same in depth at the base, crossed with 3 furrows; its colors a fine red, yellow, and corneous. Irids yellowish-brown. Forehead, sides of the head and chin, white. Over each eye arises a tuft of feathers 4 inches or more in length, which falls elegantly on each side of the neck, extending almost to the back; these are white, but buff yellow towards their extremities. The rest of the plumage is black, paler on the under parts, and inclining to cinereous. Tail very short. Legs brownish-orange. The *female* is somewhat less, and said to have only two furrows across the bill in place of three, and the superciliary tuft is smaller.

LARGE-BILLED PUFFIN.

(*Mormon glacialis*, Leach. Bonap. Synops. p. 430. No. 379. Temm. Man. d'Orn. ii. p. 933. in a note.)

Sp. Charact. — Black, beneath white, with a broad black collar; the bill exceedingly high, moderately compressed; both mandibles with at most two grooves before the nostrils; the lower mandible much curved. — In the *young* the bill is much smaller, and scarcely grooved.

This species, which I know only from the indication of Temminck and the Prince of Musignano, is said to inhabit the Arctic parts of both continents; and is not uncommon in winter on the coasts of the United States. It is also a rare and accidental visiter in northern Europe. Its plumage as well as habits are probably very similar with those of the Puffin.

PUFFIN, or COULTERNEB.

(*Mormon arcticus*, Illiger. Bonap. Synops. p. 430. No. 380. *M. fratercula*, Temm. Man. d'Orn. ii. p. 933. *Alca arctica*, Linn. Gmel. Syst. i. sp. 4. Lath. Ind. ii. p. 792. sp. 3. *A. labradora*, Lath. Ind. ii. sp. 4. and *A. deleata*, Brunn. Orn. Boreal. No. 104. [the young]. *Le Macarcux*, Buff. Ois. ix. p. 358. t. 26. Id. Pl. Enlum. 275. [adult]. Edwards. tab. 358. fig. 1. Puffin, Penn. Brit. Zool. p. 135. t. *H.* Arct. Zool. ii. No. 427, and 428.)

Sp. Charact. — Black, beneath white; a broad black collar round the neck; bill red, much compressed, both mandibles with at least three lateral grooves before the nostrils, the lower mandible but little curved. — In the *young*, the bill is yellowish-dusky, and even.

The Puffin is a general inhabitant of the cold and inclement regions of the whole northern hemisphere. On the coasts of northern Europe they are met with to the Icy Sea. They are found in Iceland, Greenland, Spitzbergen and the Feröe Isles; on the coast of Kamtschatka and the Kuriles they are also common. In the temperate climates

of Great Britain, as well as in the Shetland and Orkney Isles, they likewise breed in large communities; as, at the Farn Isles off the coast of Northumberland, Priestholm Isle, near Anglesea, the small islands off St. David's in Wales, the Isle of Wight, the cliffs of Beachy Head, Dover, Scarborough, and in the vicinity of Holyhead. They were also found by Audubon on the sterile and dreary coast of Labrador, but not beyond Brador; they also probably inhabit the coasts of Newfoundland, and in the winter are seen in great numbers in the Bay of Fundy. They are little more than stragglers on the coast of New England, but proceed in the course of the season as far south as Carolina, according to Catesby. In Europe they are also seen on the coasts of Andalusia in Spain.

In England, at Priestholm Isle, they are seen in flocks innumerable. They assemble and begin to visit the island early in April, but do not commence their incubation until the first week in May. They make no proper nest, but burrow deep holes in the loose earth, in the labor of which both male and female unite, forming excavations three or four feet in depth. As this labor is very considerable they sometimes content themselves with the deserted burrow of the rabbit, and probably at times dislodge the owners for this coveted convenience. They lay a single whitish colored egg on the bare mould of their den. The young are hatched by the beginning of July, and are attentively fed by the assiduous parents who are now seen busily engaged fishing for them, and bringing their prey in the bill, until they are so far grown as to feed and defend themselves. About the close of August they all go off in a body to a single bird, and indeed, so completely, that they desert the young ones which are hatched late, leaving them a prey to the Falcon, and other rapacious birds who watch for them at the mouths of their holes. Yet notwithstanding this apparent neglect of

their young at this time, when every other instinct is merged in the desire and necessity of migration, probably after food, no bird is more attentive to them in general; since they will suffer themselves to be taken by the hand, and use every endeavor to save and screen their young, biting not only their antagonist, but, when laid hold of by the wings, inflicting bites on themselves, as if actuated by the agonies of despair; and when released, instead of flying away, they hurry again into the burrow to their cherished young.

The Puffin, essentially aquatic in its nature and habits, makes no great progress in the air, taking wing with difficulty; and it walks on the whole length of the leg and foot with a wriggling awkward gait. In tempestuous weather they seek shelter in caverns, the holes of the nearest rocks, in their burrows, or in the rabbit holes on the beach, in which they dose till the return of calmer weather. Though accustomed to the severest cold, they are unable to brave the storm, and when overtaken by it are often drowned, and cast dead on the shore. Their food consists of various kinds of small fish, particularly sprats, the smaller kinds of crabs, shrimps and sea-weeds, and it is not improbable but that their sudden migrations are regulated by the presence or absence of certain kinds of fish on which they delight to feed. They are excessively rank in flavor, yet the young, preserved with spices and pickled, are by some people much admired. They are even potted at St. Kilda and elsewhere, and sent to London as rarities.

Though pertinacious in attachment to their favorite breeding places, they have sometimes been known to desert them in a very unaccountable manner. At the great isle of Arran, Galway Bay, in Ireland, the stupendous cliffs to the southwest of the island, which from time immemorial had been the place of resort, or rather the natural habitation of such numbers of Puffins, as is almost incredible, was at once de-

serted on the 24th of June, by the entire species, who thus abandoned their eggs and young, and went off to sea. The like incident is said to have happened forty years previous and no reason could be assigned for this extraordinary dereliction.

Among the enemies of the Coulternebs is sometimes the piratical raven, who makes bold to offer battle; but as soon as he approaches, the defender of the premises catches him under the throat with her beak, and sticks her claws into his breast till he screams out with pain and tries to get away; but the Coulterneb retains her hold, and tumbles him about, till both frequently fall into the sea, where the aggressor is drowned, and the Puffin returns in triumph to her nest. But should the raven at the first onset, get hold of the Coulterneb's neck he generally comes off victorious, killing the mother and feasting on her eggs or young. The fishermen sometimes draw them out of their burrows by introducing the hand into the hole, which is seized by the bird, who suffers himself to be pulled out rather than lose his hold. Their bite is however very severe, and they can, when irritated, take out a piece of flesh from a man's hand without any extraordinary effort. When reared and domesticated they become quite tame, and in the end familiar.

The length of the Puffin is a little over 12 inches. The half of the bill adjoining the head is lead-blue, the other part to the tip, red. The corners of the mouth are puckered so as to form a kind of star. The upper mandible with 4 furrows, the under with 3. The irids are hazel. Orbits red. Above the eye is a triangular callous protuberance, beneath an oblong one. The top of the head and whole upper parts are black, passing round the neck in a collar, The sides of the head and all the under parts are pure white. The chin in some is grey, in others white, the cheeks are also grey. Quills dusky. Tail short. Legs and feet orange; claws black, the inner one much hooked.

AUKS. (Alca, *Linn.*)

The BILL robust and shorter than the head, compressed, broad at the base, higher in the middle, feathered to the nostrils, tumid, grooved and plaited on the sides, hooked at the point; upper mandible convex, strongly curved from the middle, hooked and acute at the tip; the lower gibbous below the point, shorter and obliquely truncated; the feathers of the face advancing to the middle of both mandibles. NOSTRILS medial, marginal, short, linear, pervious, half closed by the feathered membrane, and scarcely perceptible. *Tongue* thick, oblong and acute. Head depressed, narrowed before, and rounded behind. *Tibia* much retracted; tarsus rather robust, carinated on both sides; webs entire; *nails* moderately curved, acute, the middle one largest. *Wings* short, and acute; quills sharp pointed; 1st primary longest; secondaries very short. The *tail* composed of 12 or 16 acute feathers.

The sexes similar in their plumage. The young have smaller and nearly even bills. They moult twice in the year, changing the colors of the head. The feathers short.

The true Auks live out at sea, not far from the shore; those that have the ability, fly rapidly, though usually but for short distances, and generally dive the instant they alight; they are very dexterous beneath the water, pursuing their prey with great certainty and address, making use of their wings as powerful oars. Though they walk awkwardly, they yet sometimes proceed swiftly. They breed in large companies in caves and clefts of rocks, where they also retire for shelter and repose. They lay but a single disproportionately large egg; and the young are fed by regurgitation for a considerable time, and also after leaving the eyry. They feed on fishes and small marine animals, which they obtain chiefly by diving.

These are chiefly arctic birds: the genus comprehends two widely different and apparently incongruous species; one of which, the largest of the natural order to which it belongs, scarcely ever leaves the arctic circle.

RAZOR-BILL.

(*Alca torda*, Linn. Gmel. Syst. i. p. 551. sp. 1. Lath. Ind. ii. 2. sp. 5. Bonap. Synops. p. 431. No. 381. Temm. Man. d'Orn. ii. p 936. *Le Pingouin*, Buff. Ois. ix. p. 390. t. 27. Id. Pl. Enlum. 1003. [summer dress]. and 1004. [winter plumage]. Razor-Bill Auk, Penn. Arct. Zool. ii. No. 425. Edwards, Glean. tab. 358. fig. 2. *Alca pica*, Gmel. i. sp. 2. *A. minor*, Briss. vi. p. 92. t. 8. fig. 2. [young male]. *Alca unisulcata*, Brunn. Orn. Boreal. p. 23. No. 102. Black-Billed Auk, Lath. Syn. vi. p. 320. Penn. Arct. Zool. ii. No. 426. Ib. Brit. Zool. p. 137. t. *H.* 1. [young after the first moult]. *A. balthica*, Brunn. Orn. Boreal. p. 25. sp. 101. [winter dress].)

Sp. Charact. — Black, beneath white; wings capable of flight, when folded extending to the rump; tail moderate, wedge-shaped, composed of 12 feathers. — *Adult*, the bill with 3 or 4 lateral grooves. *Summer plumage*, with the whole head black; a white line from the bill to the eye. In the *young* the bill is even.

The Razor-Bill, is another of those gregarious marine birds which dwell amidst the wildest scenes of nature, and penetrate into the most dreary hyperboreal climates throughout the whole of the northern hemisphere. They abound in the north of Europe, as far as Iceland and Greenland. And in America swarm on the bleak and barren coasts of Labrador. From the White Sea they extend their colonies along the Arctic Asiatic shores, to Kamtschatka and the gulph of Ochotsk. They also penetrate into the interior of the Baltic. In the winter season, the young, migrate into the Mediterranean, being seen along the coast of Candia and Crete, and are very common in the Bay of Gibraltar. They also visit the coasts of France and Holland at the same season. Small groups of from 10 to 12 proceed along the coasts of the United States as far as New York;* in

* Audubon, in lit.

severe winters remaining in deep water, but they are by no means common, and scarcely ever seen in Massachusetts Bay.

Like most of the birds of this family, they have a steady predilection for their ancient eyry. From time immemorial they resort to the same rocks and coasts, and there are but few places, sufficiently desert, rocky and inaccessible, suited to their furtive habits, and marine food. One of their great resorts in England, are the Needle-rocks and other precipitous cliffs, so dangerous to the shipwrecked mariner, which flank the romantic Isle of Wight. As curious and striking works of nature and instinct, these, and the birds which frequent them afford an interesting spectacle in May and June. The Razor-Bills are here in such numbers that a boat full might be killed in a day; and the eggs being esteemed a delicacy, particularly for sallads, the fishermen and other indigent and adventurous inhabitants traverse the precipices in search of the pickle Samphire, and the eggs of the Murre. Some of these stupendous cliffs are 600 feet above the yawning deep which lashes and frets them into gloomy caverns. Seaward they present rugged and deeply indented cliffs, on whose rude shelvings and ledges, the birds arrange themselves by thousands, and without further preparation lay their eggs, which lie as it were strewed without precaution by hundreds in a row, no way attached or defended by the rocks, so that in a gale of wind whole ranks of them are swept into the sea. To these otherwise inaccessible deposits the dauntless fowlers ascend, and passing intrepidly from rock to rock, collect the eggs, and descend with the same indifference. In most places, however, the attempt is made from above. The adventurer is let down from the slope contiguous to the brink of the cliff, by a rope, sustained by a single assistant, who lowering his companion, depends on his personal strength alone to support him;

which if failing, the fowler is dashed to pieces, or drowned in the sea which roars and heaves below.

This scene, on the coast of Dover, is most graphically described by that immortal bard, who delighted to hold 'as 't were the mirror up to nature.'

——— How fearful
And dizzy 'tis to cast one's eyes so low!
The Crows, and Choughs* that wing the midway air,
Show scarce so gross as beetles: — Half way down
Hangs one that gathers Samphire, dreadful trade!
Methinks, he seems no bigger than his head:
The fishermen, that walk upon the beach,
Appear like mice; and yon tall anchoring bark,
Diminished to her cock, her cock, a buoy
Almost too small for sight. The murmuring surge,
That on the unnumbered idle pebbles chafes,
Cannot be heard so high; — I'll look no more;
Lest my brain turn, and the deficient sight
Topple down headlong.

In order to study the habits of these marine birds, the celebrated Edwards spent several days among these terrific and romantic rocks. If a cannon was fired, the air was darkened with a black cloud of the cliff birds which issued by thousands from every hole and cranny as if summoned into sudden existence by the work of enchantment. They fly about in silence near to the surface of the sea, perform a few circuits; and, on the removal of the cause of alarm, return soon to their eyry, or alighting on the waves, dive out of the way of harm, until well assured that no enemy is near.

The egg of the Razor-Bill is very large for the size of the bird, being about $3\frac{1}{2}$ inches long, pointed towards the

* In all probability the very birds in question, Murres and Guillemots, rather than either the one or the other here introduced.

smaller end, pure white, or sometimes yellowish, largely and rather uniformly blotched and streaked with very dark brown, but principally towards the larger end. They lay but one, except when robbed of the first, and if this is taken they will sometimes give a third. These birds, which Mr. Audubon found breeding in great numbers on the coast of Labrador, generally took possession of the most rugged and precipitous isles, in the deep indentations and fissures of which they crowded, and deposited their eggs as near together as distinct proprietorship would admit, commonly upon a nest of pebbles, artificially collected together, under and between which the dripping waters and melting ice thus passed without ever coming in contact with their eggs. The Murre sits on her nest in an upright posture, and with her head facing the wind. The young are fed by regurgitated food until they attain a considerable size; after which the small fish, on which old and young principally feed, are merely laid before them. They leave their rock, or nest when about half grown, and then immediately commence fishing for themselves. Thousands of these birds are here seen breeding on and about the same rock.*

The flight of the Razor-Bill is rapid, and according to Mr. Audubon, sometimes even greatly protracted, but low above the surface of the water, and sustained by a constant, stiff and short flapping of the wings. It dives to great depths, and swims under the surface with considerable velocity, using its wings as flattened fins, and in this manner, like the Divers, they may be seen pursuing and seizing their prey, Besides Labrador, Mr. A. found that they occasionally bred in the island of Grand Manan, the Seal Islands, and others situated in the entrance of the Bay of Fundy. Though they walk and run awkwardly, they remove swiftly,

* Audubon, in lit.

and can easily escape from place to place. The bite of the old bird, like that of the Puffin, is very severe. The fishermen of this region call them the Hawk-Billed Murre. Their flesh is quite palatable, although very dark, and much employed by the Greenlanders, according to Crantz, forming their chief subsistence during the months of February and March. They are killed with missiles, chased and driven ashore in canoes, or taken in nets made of split whalebone. They also use their skins for clothing. The eggs are everywhere accounted a delicacy; and the feathers of the breast are extremely fine, warm and elastic. For the sake of this handful of feathers, according to Audubon, thousands of these birds are killed in Labrador and their bodies strewed on the shore. The islands between the small port of Little Macatine and Brador, abound with these and other allied marine birds, whose eggs are collected by the inhabitants of Nova Scotia. For this purpose, they commence by trampling on all they find laid, and the following day begin to collect those which are newly dropped; and such is the abundance of the eggs, that Mr. A. fell in with a party of three men, who, in the course of six weeks, had collected 30,000 dozen, of the estimated value of 400 pounds sterling! Beyond Brador the Murres and Puffins were no longer found.

The length of the Razor-Bill is about 15 inches according to Temminck, and 18 by Pennant and Montagu! In the *winter plumage of the adults*, the summit of the head, nape, sides of the neck and all the other upper parts are of a deep black. A longitudinal band of white divided by brown spots, extends from the middle of the bill to the eyes. Quills blackish-brown. The secondaries tipped with white. Throat, forepart of the neck, breast, and all the lower parts pure white. A space of white spotted with ash occupies the sides of the occiput, and there is a narrow black stripe behind the eyes. The bill black, marked with 3 or 4 grooves, of which the middle one

forms a transverse white band. Inside of the bill livid yellow. Iris bright brown. Feet blackish-ash.

The young of the year, resemble the adults in winter plumage; but the bill is smaller, and not grooved with white. The summit of the head and nape is of an ashy-black. All the lower parts are white; this white, however, is clouded with ash, which prevails equally upon the sides of the neck and towards the occiput, where this color advances in the form of an angle. The bill is small, very little elevated, deprived of the groove and scarcely hooked at the point. The iris also blackish. It is then *Alca pica* of GMELIN and others.

In *the summer plumage*, the narrow band which goes from the bill to the eyes is very pure white. The cheeks, throat and superior portion of the forepart of the neck is of a deep black, appearing shaded with a light tint of reddish. Inside of the bill bright yellow, the rest as in winter.

GREAT AUK.

(*Alca impennis*, Linn. Faun. Suec. No. 140. Lath. Ind. Orn. ii. p. 791. Bonap. Synops. p. 432. [in note]. Temm. Man. d'Orn. ii. p. 939. *Le Grand Pingouin*, Buff. Ois. ix. p. 393. t. 29. Id. Pl. Enlum. 367. Great Auk, Edwards, tab. 147. Penn. Arct. Zool. ii. p. 220. [4to.] No. 424. Id. Brit. Zool. ii. No. 229.)

Sp. Charact. — Black, beneath white; wings extremely short, and useless for flight: tail short and rounded, composed of 16 feathers. — *Adult* with the bill grooved. *Summer plumage*, with the whole head and throat black; a large white spot on each side of the base of the bill. In the *young* the bill is even; and there is no white spot on the front.

The Great Auk, or Northern Penguin, inhabits the highest latitudes of the globe, dwelling by choice and instinct

amidst the horrors of a region covered with eternal ice. Here it is commonly found upon the floating masses of the gelid ocean, far from land, to which alone it resorts in the season of procreation. In this cheerless climate,

> Ocean itself no longer can resist
> The binding fury; but, in all its rage
> Of tempest taken by the boundless frost,
> Is many a fathom to the bottom chain'd,
> And bid to roar no more; a bleak expanse,
> Shagg'd o'er with wavy rocks, cheerless, and void
> Of every life, that from the dreary months
> Flies conscious southward.

Deprived of the use of wings, degraded as it were from the feathered ranks, and almost numbered with the amphibious monsters of the deep, the Auk seems condemned to dwell alone in those desolate and forsaken regions of the earth. Yet aided by all bountiful nature he finds means to subsist, and triumphs over all the physical ills of his condition. As a diver he remains unrivalled, proceeding beneath the water, his most natural element, almost with the velocity of many birds in the air. He thus contrives to vary his situation with the season, migrating for short distances, like the finny prey on which he feeds. In the Ferröe isles, Iceland, Greenland and Newfoundland, they dwell and breed in great numbers. They nest among the steepest cliffs of islands remote from the shore, in the vicinity of floating ice, taking possession of caverns, the crannies and clefts of rocks; or they dig for themselves deep burrows in which they lay their only egg, about the size of that of the Swan, whitish-yellow marked with numerous lines and spots of black, which present to the imagination the idea of Chinese characters. They are so unprolific, that if this egg be taken away, they lay no other that season. Their time of breeding is June and July.

The Auk is known sometimes to breed in the isle of St. Kilda; and in Papa Westra, according to Mr. Bullock, for several years past no more than a single pair had made their appearance. They feed on large fish,* and also on some marine plants, as well as those which grow on the rocks contiguous to their holes or burrows. The young birds tear up the roots of the *Rhodiola rosea.* Many are said to breed on the desert coasts of Newfoundland, where they have been seen by navigators, though not recently. According to Pennant, the Esquimaux, who frequented this island made clothing of the skins of these birds. The older ones are very shy, and but rarely venture to the shore, on which they walk badly, though the young are not unfrequently met with. When fed in confinement, it expresses its anxiety by raising and shaking the head and neck, and uttering a gurgling noise, but appears to be on the whole, essentially dumb, as well as deprived of flight.

The length of the Northern Penguin is about 3 feet, or under. *Summer dress:* in front of the eyes, on each side the base of the bill, there is a large white spot. Head, nape, back, wings and tail deep black. Throat, upper parts, and sides of the neck black, shaded with dull brown. Flanks deep ash color. All the lower parts pure white, this white color terminating in a point upon the fore part of the neck. The lesser quill feathers tipped with white, producing a bar on the wing. Bill black and wide; upon the base of the upper mandible there is a very deep groove; at the point 6 others with a white ground; there are 8 or 10 others with a similar ground upon the point of the lower mandible. The feet and iris black. The wing is only 4 inches in length.

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* The *Cyclopterus lumpus*, and others.

APPENDIX.

CALIFORNIAN VULTURE.

(*Cathartes Californianus*, Bonap. *Sarcoramphus Californianus*, Vigors, Zool. Journ. ii. p. 375.)

This bird has not yet been discovered to the eastward of the Rocky Mountains. According to Mr. Douglas (in the Zoological Journal) it is common in the woody districts of California, migrating in summer as far as the 49th parallel; but was no where so abundant as in the valley of the Columbia between the Grand Rapids and the sea. They build in the thickest of the Pine forests, seeming to give a preference to those trees which overhang the precipices in the least accessible parts of the mountain valleys. The nest is large, composed of strong thorny twigs and grass, like that of the eagle, but more slovenly put together. The pair resort to the same eyry year after year, and lay 2 nearly spherical black eggs, about the size of those of the goose. They hatch about the beginning of June, and incubate 29 or 30 days. The young are covered with thick whitish down, and remain incapable of leaving the nest until the fifth or sixth week. Their food is carrion, or dead fish; and in no instance are they observed to attack any living animal, unless it be wounded and unable to walk. In quest of their prey, they soar to a great height, and on discovering a wounded deer, or other animal, they follow its track until it sinks, and then descend upon it precipitately.

Crowding to the spot where their prey is discovered, in an hour they will devour a stag or a horse to a skeleton. Their voracity seems insatiable, and after gorging themselves become too sluggish and indolent to remove from the place of their repast, perching on the adjacent trees till again aroused by the recurring calls of hunger. Except, however, after eating, or while guarding their nest, they are so wary, that the hunter can scarcely ever approach them within gunshot. Their flight is slow, steady and sailing, with scarcely any apparent motion in the wings : but they are seen in the greatest numbers, and soar highest before hurricanes or thunder storms.

The length of recent specimens was 56 inches.

THE MERLIN.

(*Falco æsalon*, Temm. Man. d'Orn. i. p. 27. Rich. and Swains. North. Zool. ii. p. 37. pl. 25. [female.] Selby, Brit. Orn. i. p. 45. pl. 18. Dubious Falcon, Penn. Arct. Zool. No. 112?)

Sp. Charact. — Above bluish-grey spotted and striped with dusky and ferruginous; the head dusky and striped; below yellowish-white with oblong spots; cere and feet yellow. — *Female* above, dusky brown barred and spotted with lighter yellowish-brown.

The specimen of this well known Falcon of the old continent, was obtained by Dr. Richardson at Carlton House, in the Hudson's Bay fur countries in the month of May. A second specimen, was also killed at the Sault St. Marie, between Lakes Huron and Superior. The Merlin often nests on the ground, very closely amidst the heath, in the north of England; and sometimes they deposit their eggs in a deserted crow's nest; these are said to be of a plain chocolate color. Occasionally they are seen in the vicinity of Boston.

The length 14 inches. (The *male* about 10 inches long). The dorsal aspect dull, dusky yellowish-brown, varied by spots and short transverse bars of dull wood-brown. Feathers of the crown centred with blackish-brown; the plumage of the neck lighter. On the back, wing and tail coverts, the wood-brown forms one or two pairs of roundish, ill defined spots on each feather and on the scapulars, bars. The primaries with from 5 to 7 pair of wood-brown spots, those on the outer webs small, irregular, and near the shafts. The tail paler and duller than the back, except at the end where it is also tipped with soiled white, and crossed by 5 narrow bars of the same color. — The throat white; cheeks, sides of the neck and breast, brownish-white, streaked lengthways with dark liver-brown. Belly and thighs white, with yellowish-brown streaks on the shafts. Flanks and wing linings, yellowish-brown with oval white marks. Quills barred alternately on the inside with dull brown and wine-yellow. Under tail coverts white. Bill bluish-black. 2d and 3d quills longest. — *Female.*

COMMON BUZZARD.

(*Falco buteo*, Linn. *Buteo vulgaris*, Rich. and Swains. North. Zool. ii. p. 47. pl. 27. [male.] Plain Falcon, Penn. Arct. Zool. ii. p. 207. No 103? [young female?] *F. obsoletus*, Lath. Ind. i. sp. 61.?)

Sp. Charact. — Blackish-brown; the tail darker, crossed by about 7 bars; below dull brown, paler on the belly and spotted, whitish on the vent: cere and feet yellow. — *Female* less bright on the belly, barred with blackish-brown; and with the cere and legs bluish-livid.

The Common Buzzard, according to Richardson, arrives in the fur countries about the middle of April: soon after it builds its nest, and having reared its young, departs about the end of September. It haunts alluvial lands by the banks of streams, where on the bough of a tree it sits watching patiently for the approach of some diminutive quadruped, bird or reptile. On espying its prey, it glides of, and sweeping easily but rapidly down, seizes it in its

claws. When disturbed it makes a short circuit, and soon settles on some other perch. Its nest, on a tree, is made of short sticks, and sparingly lined with deer's hair. The eggs 3 to 5 in number, are equal in size to those of the domestic fowl, and have a greenish-white color, with a few large dark-brown blotches at the thick end. It was seen as far north as the 57th parallel, and it most probably takes a still higher range. In France, the flesh is accounted a delicacy and much sought after during winter.

Length of the *male* Buzzard about 22 inches. — The dorsal aspect between clove and blackish-brown, the margins of the feathers paler; the head and hind part of the back darker, the edges of the rest of the plumage fading into soiled yellowish-brown. Quills and long scapulars, blackish-brown; some obscure bars on the former. Secondaries and a few adjoining primaries narrowly tipped with brownish-white. Tail deep clove-brown, with a narrow soiled tip, crossed by about 7 obscure bars of a deeper shade, the terminal one an inch broad. *Under surface:* the cheeks clove-brown; throat white; sides and fore part of the neck, and upper part of the breast, dull brocoli-brown, slightly mixed with yellowish-brown. Belly and thighs pale yellowish-brown, indistinctly barred with white. Vent and under tail coverts soiled white. Flanks yellowish-brown, with some patches of clove-brown. Tail square, beneath very pale ash-grey, crossed by 7 bars of clove-brown. Bill bluish-black. Cere and legs yellowish. Bill broad at base, flatly convex above, much compressed towards the tip, which forms a rather slender acute hook. The lower mandible very obliquely truncated at the end. The 3d quill longest.

The general color of the *female* similar with that of the male, but the black bars on the tail are more distinct; the breast darker, the belly less bright, and as well as the flanks studded with short bars of blackish-brown. The cere and legs have a bluish livid color. The 3d and 4th quills are also equal. — Length 26 inches; tail 10.

ARCTIC OR WHITE HORNED OWL.

(*Strix scandiaca*, LINN. *S.* (Bubo) *arctica*, SWAINS. and RICHARDS. North. Zool. ii. p. 86. pl. 32. *Strix maxima, capite aurito, corpore niveo*, or Great Horned White Owl, BARTRAM's Travels, p. 289.)

SP. CHARACT — White tinged with brown, varied with blackish-brown bars and lines: beneath brilliant white, slenderly waved on the throat, breast and flanks: egrets long, composed of 6 or 7 feathers.

OF this very rare and beautiful bird only one specimen was obtained by Dr. Richardson and the Expedition to which he was attached. This was seen flying at mid-day in the immediate vicinity of Carlton House, and was brought down with an arrow by an Indian boy.

Imperfect and short as may be the description of this bird given by Linnæus, there can be no reasonable doubt but that it is the present rare and Arctic bird. Three years ago, an individual of the same species was observed in this vicinity, also prowling about by day, and remained, in the neighborhood for two or three days.

The length 23½ inches, according to Richardson. The tail 8½. Of the bill from above, 1 inch 9 lines. The tarsus 2 inches 3 lines. The face white, bounded behind by blackish-brown, succeeded by white, which two latter colors are continued in a mixed band across the throat. The egrets colored at the base like the adjoining plumage, the longer feathers tipped with blackish-brown, their inner webs white, varied with wood-brown. Above slenderly waved with dark umber-brown, and white; the white tinged with pale brown on the greater wing coverts, some of the scapulars, and particularly on the neck and lesser wing coverts. The quills wood-brown, white along a great portion of their inner webs, and crossed by from 5 to 6 umber-brown bars on both webs, and the intervals speckled with the same. Tail feathers white, deeply tinged on their inner webs with wood-brown, and crossed by 6 bars of dark-brown, about half as broad as the intervening spaces: their tips are white. — Chin white. The throat crossed by a dark band, behind which there is a large space of pure white, bounded again below on the breast by blotches

of liver-brown on the tips of the feathers. Belly and flanks white, crossed by narrow, regular waving bars of dark-brown. The vent, under tail-coverts, thighs and feet pure white. The linings of the wings white, with the exception of a brown spot on the tips, of the greater interior coverts. Bill and claws bluish-black. Irids yellow. Fascial disk small, incomplete above the orbits. Auditory conch oval, and without an operculum. Egrets more than 2 inches long. Tips of the folded wings, 3½ inches from the end of the rounded tail. The 2d and 3d quills longest.

TENGMALM'S OWL.

(*Strix Tengmalmi*, Temm. Man. d'Orn. i. p. 94. Vieillot, Gal. des Ois. pl. 23. Richard. and Swains. North. Zool. ii. p. 94. pl. 32. *Strix passerina*, Forster, Phil. Trans. 62. p. 385. No. 7. New species of Owl, Penn. Arct. Zool. ii. Suppl. p. 60.)

Sp. Charact. — Dusky-brown spotted with white; beneath white also blotched with dusky; tail extending far beyond the tips of the wings, crossed by 5 narrow bands of white spots; secondaries spotted with white on their outer webs. A small species.

This is a small and strictly nocturnal species; and so much so that when it accidentally wanders abroad by day, it is so much dazzled by the light as to be rendered unable to make its escape when surprised, and may then be readily caught by the hand. Its nocturnal cry consists of a single melancholy note, repeated at the long intervals of a minute or two: and it is one of the superstitious practices of the Indians to whistle when they hear it; and if the bird remains silent after this interrogatory challenge, the speedy death of the inquirer is augured; and hence among the Crees it has acquired the ominous appellation of the Bird of Death (*Cheepomesēēs*). According to Mr. Hutchins, it builds a nest of grass, half way up a pine tree, and lays 2 eggs in the month of May. It feeds on mice and beetles. It probably inhabits all the forests of the fur

countries from Great Slave Lake to the United States. On the banks of the Saskatchewan, it is so common, that its voice is heard almost every night by the traveller wherever he may select his camp.

According to Richardson its length is 11½ inches, measured over the crown, while the *S. acadica* similarly measured gives only 10 inches. The tail in this species is 5 inches: in *S. acadica* only *three* inches. The bill whitish on the ridge and at the tip; but dark-colored on the sides. Fascial circle blackish round the orbits and at the base of the bill; the rest of it is white, with black shafts and barbs towards its posterior margin. Ear-feathers blackish-brown with a few white spots. — *Above* liver-brown. The front thickly dotted with round white spots, one only, in general, on each feather near its tip; but, in a few, there is an indication of a pair of spots lower down. (In *S. acadica*, the white forms linear streaks along the shafts of the feathers of the head). Spots on the occiput somewhat distant, larger on the back of the neck and shoulders, each spot being restricted to the middle of the feather. Only 2 or 3 spots on the back, but many on the scapulars. A few distant round spots on the lesser wing coverts. Coverts of the primaries unspotted, except on their inner webs. The quills with 4 or 5 semi-orbicular spots on the margin of their outer webs, and as many oblong larger spots, extending to near the margins of the inner ones. The outer spots of the 2 first primaries are nearly obsolete. The secondaries have 2 spots on their outer webs, and usually about 5 on their inner ones. The tail of the general color of the upper plumage, crossed by 5 narrow interrupted white bands of spots not extending to the shafts of the feathers. — *Below* there is a general mixture of white and dusky-brown, disposed in large and confluent spots; the white occupies the lateral margins of the feathers. Wing linings white with some blotches of clove-brown. The feathers of the legs and feet soiled yellowish-white, with some obscure brown markings. Conch of the ear partly semicircular, with a long narrow operculum. The tips of the wings when folded are an inch and a quarter shorter than the tail. The 3d quill longest, and the 4th is nearly equal with it.

Note. Besides the large Spotted Owl, *(Wapacutha)* of Mr. Hutchins, which, Dr. Richardson considers as a distinct and valid species, I have seen in the collection of the Zoological Gardens in London a large Owl, labelled, Bubo Maximus from Hudson's Bay.

An Eared species much greater than *Strix virginiana*, darker, more mixed with fulvous, and without the white crescent under the chin. The irids were also fiery red instead of sulpher or golden yellow. Whether this species has yet been published or otherwise I am unable to say, but leave it to further inquiry.

LANIUS BOREALIS, *Richard.* and *Swains.* North. Zool. ii. p. 111. pl. 33. [female.]

Note. Mr. Swainson on comparing this species with the European *L. excubitor* finds that it is obviously larger; the 2d quill is also shorter than the 6th; the 3d a little shorter than the 4th, and longer than the 5th; the 4th being longest; and this disposition of the quills prevails equally in both sexes. In *L. excubitor* the 3d and 4th quills are of equal length and the longest, while the 2d is exactly as long as the 6th.

So complete, at times, is the resemblance between the Mocking-Bird *(Orpheus polyglottus)* and this species of *Lanius*, that it is difficult to distinguish them apart. I have lately heard one (November 10th, 1833), employed in a low and soft warble resembling that of the Song Sparrow at the present season, and immediately after, his note changed to that of the Cat-Bird. Like that preeminent minstrel the Orpheus, he also mounts to the topmost spray of some lofty tree to display his deceptive talent, and mislead the small birds so as to bring them within his reach. His attitudes are also light and airy, and his graceful flowing tail is kept in fantastic motion.

AMERICAN GREY SHRIKE.

(Lanius excubitoroides, Swains. North. Zool. ii. p. 115. pl. 34.)

Sp. Charact. — Deep pearl-grey; beneath wholly white; the bill, frontal line, and a band passing over the eye and cheek, black; wings short; tail narrow, long wedge-form, black, with a white lateral border.

This bird, which in winter is seen in the vicinity of Boston, is a more southern species in its summer range than the *L. borealis*. According to Richardson it does not advance farther north than the 54th parallel; and it attains

that extremity only in the meridian of the warm and sandy plains of the Saskatchewan, which enjoy an earlier spring and longer summer than the densely wooded country lying between them and Hudson's Bay. Its manners are similar with those of *L. borealis*. It feeds much on grasshoppers which abound in the plains. Mr. Drummond found its nest the beginning of June, in a willow bush; it was constructed of the twigs of a wild species of wormwood and dried grass, and finished with a lining of feathers. The eggs 6 in number, were of a pale yellowish-grey, with many irregular and confluent spots of oil-green, interspersed with others of a smoke-grey.

Length of the species 9½ inches: of the tail 4; bill from above, 7½ lines; tarsus 1 inch. — The head, back, and lesser wing coverts, deep pearl-grey; the exterior edges of the scapulars and tail coverts paler, approaching to greyish-white. A black band commences at the nostrils, unites with its fellow at the base of the upper mandible, and, becoming broader as it passes backwards, terminates obtusely on the side of the neck; it also includes the whole of the upper and under eye-lids, and separates the grey color of the upper parts of the head from the white of the lower parts. The primaries and their coverts are umber-brown; all the former, except the first or spurious one, have a white space next their quills half an inch in breadth; the tips pale, except the 2 next the secondaries, which are terminated by a white border. Secondaries and their coverts blackish-brown, tipt with white. Tail blackish-brown, with a broad white border, the 2 centre feathers wholly blackish-brown, the adjoining one on each side of them having a minute white tip; and the outer one having the whole of its exterior web, and two thirds of its inner web white, whilst the others have an intermediate quantity of white. — Below unspotted white, with a tinge of grey on the flanks, and of broccoli-brown on the linings of the wings. Bill greenish-black. Legs dark resinous-brown. The bill rather shorter and broader at the base than that of *L. borealis*, but with a sharper ridge and a more slender acute point; the lateral tooth very acute. The wings short, extending within 2¼ inches of the end of the tail, 3d and 4th primaries longest; 2d scarcely shorter than the 6th. Tail

long and cuneiform, the outermost feathers being nearly an inch and a quarter shorter than the middle ones.

WHITE-WINGED SHRIKE.

(Lanius elegans, Swainson, North. Zool. ii. p. 122.)

Sp. Charact. — Clear bluish-grey, beneath unspotted white; frontlet the same color with the head; a broad white band across the wing; a slender and very cuneiform tail, entirely bordered with white: 2d quill longer than the 6th, the 4th longest; the tarsus exceeding the length of the bill.

A specimen of this handsome Shrike exists in the British Museum, to which it was presented by the Hudson's Bay Company. The particular district of its residence and habits are unknown. It is readily distinguished by the great quantity of white on the wings and tail, the narrower tail feathers, longer tarsi, and less curved claws.

Length 9 inches 9 lines; tail 4 inches 5 lines; bill from the angle of the mouth 11 lines; from above, 8 lines; tarsus 1 inch 2½ lines. Head and body above clear bluish-grey; the tail coverts somewhat lighter; exterior margins of the scapulars nearly white. The lateral marks on the head, the wings, with the exception of the white parts, and the middle of the tail, pitch-black. The white band on the wing 1½ inches broad, crossing the bases of all the primaries, from the 2d to the 10th, inclusive. The secondaries broadly tipt with white; their exterior margins, and the whole of their inner webs (with the exception of a black patch near the tips of the first two), also white. The first primary and the three tertiaries are black. The 2 central pairs of tail feathers very slightly tipt with white; the 2 next pairs broadly tipt with the same; the 2 outer pairs wholly white, except the shafts which are brownish. Below pure white, except the brownish tips of the quills and the centre of the tail. Bill and legs blackish; the lower mandible not pale at the base as in *L. borealis.*

OLIVE-SIDED FLY-CATCHER.

(*Muscicapa Cooperi*, Nuttall and Cooper, Man. Orn. i. p. 282. *Tyrannus borealis*, Swainson, North. Zool. ii. p. 141. pl. 35.)

This bird appears to have been discovered in the fur countries about the same time as in the United States. According to Dr. Richardson, the specimen, figured so spiritedly in the Northern Zoology of Canada, was shot on the banks of the Saskatchewan as it was flying near the ground.

In 1832, about the middle of June the same pair apparently, had again taken possession of a small Juniper not more than 300 yards from the tree they had occupied the preceding year, about 14 or 15 feet up which they had fixed their thin twiggy nest as in the preceding year. It contained 4 eggs on which the female had commenced sitting; these, except in their superior size, were precisely similar with those of the Wood Pewee, yellowish-cream color, with dark brown, and lavender purple spots, rather thinly dispersed. Being unfortunate enough to shake out the two eggs I intended to leave in the nest, the pair had to commence their labors of preparing for a progeny anew; and a few days after a second nest was made in another Virginian Juniper at a very short distance from the preceding. The present year, however, they did not return to their accustomed retreat, and no individual was seen in this vicinity. In all places it appears, in fact, a scarce and widely dispersed species.

LITTLE TYRANT FLY-CATCHER.

(*Muscicapa pusilla. Tyrannula pusilla*, Swainson, North. Zool. ii. p. 144. pl. 46. fig. 1.)

Sp. Charact. — Above olive; paler beneath; orbits and front hoary; wings somewhat rounded; 1st quill shorter than the 6th

and the 2d shorter than the 4th; the bill short and broad, with the under mandible pale. A small species.

Nothing characteristic is known concerning the habits of this bird, which according to Richardson, was seen near Carleton House, in the fur countries, the 19th of May, flitting about for a few days among low bushes on the banks of the Saskatchewan, after which it retired to the shady woods farther to the north. Without attending to the marks here given in the specific character it would be impossible to distinguish this bird from the *Muscicapa acadica*, (*M. querula*, of Wilson). In *M. querula*, however, the wings are invariably longer, being 3 inches, but in *pusilla* only $2\frac{6}{10}$ of an inch long, and the primaries but $\frac{6}{10}$ longer than the secondaries, while in *acadica* they are an inch longer. According to Swainson, this new species is also a native of the shores of Mexico.

Note. We are acquainted with a third small species allied to the present and *acadica*, but distinguishable by the superior brightness of its plumage; being olive-green above and on the flanks. Rump, and beneath the wings almost sulphur-yellow, with a brightish bar also on the wings. This species does not appear to migrate much to the north of New York State.

SHORT-LEGGED PEWIT.

(*Muscicapa Richardsonii*, Nobis. *Tyrannula Richardsonii*, Swainson, North. Zool. ii. p. 146. pl 46. [lower figure].)

Sp. Charact. — Olive-brown; beneath pale; head with a thick incumbent crest; bill black; the 2d and 5th quills equal, the 3d and 4th equal and longest; tail slightly forked; tarsus very short.

This species, so nearly allied to the Pewit (*M. fusca*, Bonap.) was found in the neighborhood of Cumberland House in the fur countries, frequenting moist shady woods

by the banks of rivers and lakes. According to the suggestion of Dr. Richardson, its discoverer, it probably extends its summer range to the shores of Great Slave Lake.

Length 6 inches 8 lines; the tail 2 inches 9 lines: the folded wings 3 inches 3 lines; the bill from above, ½ an inch; tarsus 7¼ lines. Above hair-brown, very slightly tinged with olive-green, much darker on the head than elsewhere. Wings and tail liver-brown; the margins of the secondaries and their coverts, and the outer edges of the exterior tail feathers, paler, as if worn. Below pale, between oil-green and wax-yellow, the under tail coverts approaching to ochre-yellow. Bill blackish-brown. Legs black. Tail an inch longer than the folded wings. The legs and feet much more slender than in the Pewit. The secondaries and tertiaries are also without the broad and distinct paler edgings of the Pewit.

AMERICAN DIPPER.

(*Cinclus americanus*, Swains. Synops. p. 367. No. 27. Richard. and Swains. North. Zool. ii. p. 173. *C. Pallasii*, Bonap. Am. Orn. iii. pl. 16. fig. 1. Nuttall, Man. Orn. i. p. 358.)

Sp. Charact. — Cinereous-grey; head and neck blackish-brown. — *Young*, blackish-grey inclining to ash; throat and breast tinged with clove-brown, quills and tail of the latter color, the secondaries slightly tipped with white; the bill horn-color; feet flesh-color. — In the *adult* the bill is black.

Obs. A fourth species of this interesting genus is known to inhabit India.

THE ROBIN. (*Turdus migratorius*).

This bird, according to Richardson, inhabits every part of the fur countries. Nests of the Robin are found as high as the 67th parallel; and from the reports of travellers it is known to visit the north-west coast of America. It arrives in the Missouri (in lat. 41½°), from the eastward, on the 11th of April; and in the course of its northerly movement, visits Severn River in Hudson's Bay about a fortnight later. On the

7th of May, in 1827, it was seen at Fort Chepewyan in latitude 58¾°, and in the distant parallel of 65°, at Fort Franklin on the 20th of that month. In the 54th degree, they begin to hatch by the end of May; but 11 degrees farther to the north, they do not commence incubation until the 11th of June. The snow even then partially covers the ground; but there are, in those latitudes, abundance of the berries of the Alpine Arbutus, Crow-Berry, *(Empetrum nigrum,)* Whortle-Berry and Cow-Berry *(Vaccinium uliginosum,* and *V. Vitis idæa),* besides those of some other plants, which, after having been frozen up all the winter, are exposed, on the melting of the snow, again to view, full of juice, and retaining their original flavor. Dr. Richardson remarks, that the notes of the Robin "resemble those of the common Thrush, *(Turdus musicus)* but are not so loud. Within the Arctic circle the woods are silent in the bright light of noon-day, but towards midnight, when the sun travels near the horizon and the shades of the forest are lengthened, the concert commences, and continues till six or seven in the morning. Even in those remote regions, the mistake of those naturalists who have asserted that the feathered tribes of America are void of harmony might be fully disproved. Indeed, the transition is so sudden from the perfect repose, the death-like silence of an arctic winter, to the animated bustle of summer; the trees spread their foliage with such magic rapidity, and every succeeding morning opens with such agreeable accessions of feathered songsters to swell the chorus — their plumage as gay and unimpaired as when they enlivened the deep-green forests of tropical climes, that the return of a northern spring excites in the mind a deep feeling of the beauties of the season, a sense of the bounty and Providence of the Supreme Being, which is cheaply purchased by the tedium of nine months winter. The most verdant lawns and cultivated glades of Europe, the most

beautiful productions of art, fail in producing that exhileration and joyous buoyancy of mind which we have experienced in treading the wilds of Arctic America, when their snowy covering has just been replaced by an infant but vigorous vegetation." RICHARDS. North. Zool. ii. p. 177.

WILSON'S THRUSH.

(*Turdus Wilsonii*, BONAP. NUTT. Man. Orn. i. p. 349. &c. *Merula minor*, SWAINS. North. Zool. ii. p. 179. pl. 86. [very accurate].)

IT appears from Dr. Richardson, that this Thrush, so common in New England, likewise extends its vernal migrations into the distant fur countries, making its appearance on the banks of the Saskatchewan in the month of May. That this is the species intended by the Prince of Musignano for his *T. Wilsonii*, appears to us unquestionable, and that it is also the long lost and disputed *T. minor*, appears equally certain. But, as Mr. Swainson himself justly acknowledges the necessity of some fixed nomenclature, established either by good figures or passable and intelligible descriptions, we retain for the present species, the name imposed on it by Bonaparte, adding at the same time, the additional distinctive phrase of Mr. S.; — that the 2d, 3d, and 4th quills are longest, and the 2d, shorter than the 4th; also the bill from the angle of the mouth is 11 lines.

We cannot call to mind any thing which suits the character of Swainson's *Merula Wilsonii*, ("obscure *olive*-brown; beneath whitish; throat and *breast* marked with dusky spots;" — and "the 2d quill equal to the 4th") except an early spring visiter in dark woods, with a very shy and retiring habit like that of the Hermit Thrush, and of which we have no specimen.

THRUSH MOCK-BIRD.

(*Turdus* (Orpheus) *meruloides*, Nobis. *Orpheus meruloides*, Swainson, North. Zool. ii. p. 187. pl. 38. Spotted Thrush, Lath. Synops. iii. p. 27. sp. 13. Varied Thrush, Penn. Arct. Zool. ii. p. 327. pl. 15. *T. nævius*, Lath. Ind. i. p. 331. sp. 13. ?)

Sp. Charact. — Blackish-grey, beneath principally reddish-orange; an imperfect black belt extending on the breast; two orange bands on the wings, with the quills exteriorly blotched with the same.

This elegant and rather brilliant species was discovered at Nootka Sound, in Captain Cook's third voyage, and both sexes are described by Latham. Pennant has described and figured the same male individual. It was found by the Arctic Expedition at Fort Franklin in lat. 65¼°, in the spring of 1826. It was said to build its nest in a bush, similar to that of the American Robin.

Length 9 inches 9 lines; the tail 3 inches 6 lines; the bill above, 10 lines, from the rictus 1 inch 1½ lines; tarsus 1 inch 3 lines. — Above blackish-grey; the head, sides of the neck, and rudimental pectoral belt, pitch-black. The blackish ear-feathers surrounded by a narrow stripe of reddish-orange which extends to the eye-brows. Tail greyish-black, a large white spot on the tip of the inner web of the outer feather, and brownish-white spots on the tips of all the other feathers, diminishing in size to the central ones on which there is merely a minute brownish spec on their tips. Quills, greater coverts, and the adjoining row of lesser ones, liver-brown. Two rather broad bands of pale reddish-orange cross the wings. A large patch of the same color on the primaries near their coverts, and a smaller one about half way to their tips. Tertiaries slightly tipped with white. — Chin, throat and belly reddish-orange. Vent white. Under tail coverts blackish-grey, edged with orange, and largely tipt with white. Flanks and axillary feathers bluish-grey. Bill black, pale yellow at the base of the under mandible. Legs flesh-colored. Bill straight, compressed, more slender than in the Robin, but otherwise resembling it. Wings 1½ inches shorter than the end of the tail, 4th quill longest; the 3d and 5th nearly equal it. Tail slightly rounded. Tarsus much longer than the middle toe.

CAT-BIRD. (*Turdus felivox*, Bonap. *Orpheus felivox*, Swainson.)

This familiar bird extends its summer residence in the fur countries to the 54th parallel of latitude; and though flocks proceed in the winter as far south as the Gulph of Mexico, yet many winter also in the sheltered swamps of North and South Carolina, where I have seen them abundant in January. It does not arrive on the banks of the Saskatchewan before the close of May.

ARCTIC BLUE-BIRD.

(*Sialia arctica*, Nobis. *Erythaca arctica*, Swainson, North. Zool. ii. p. 209. pl. 39.)

Sp. Charact. — Ultramarine-blue; beneath greenish-blue, and whitish on the lower part of the belly and under tail coverts.

Of this very beautiful and distinct species, only a single specimen was procured by the Arctic Expedition, and this was shot at Fort Franklin, near Great Bear Lake in latitude 64¼°, July, 1825. It appeared to be a mere summer straggler, and nothing was learnt respecting its habits. It is in all probability a Mexican bird.

Length 7 inches 9 lines; tail 2 inches 9 lines; the bill from the rictus 8 lines, from above, 6 lines: tarsus 10 lines; middle toe 7½. — Above ultramarine-blue: the webs of the tertiaries, and the tips and inner margins of the quill and tail feathers dull umber-brown. The base of the plumage blackish-grey. — Cheeks, throat, breast, and insides of the wings greenish-blue, fading on the abdomen to greyish-white. Vent and under tail coverts white. Tail beneath, and insides of the quill feathers clove-brown, with a strong tinge of blue. Bill and feet pitch-black. — Bill narrower at base than in the common Blue-Bird, also longer, straighter, more faintly notched and less bent at the tip of the upper mandible: its breadth is equal to its depth. Wings ¾ of an inch shorter than the tail, 2d quill longest; the 1st and 3d equal. Tail deeply emarginated, the central feathers being more than half an inch shorter than the exterior ones.

YELLOW-RUMP WARBLER.

(*Sylvia maculosa*, Bonap. *Sylvicola maculosa*, Swainson, North. Zool. ii. p. 213. pl. 40.)

Although rare in the United States, it appears, according to Richardson, that this elegant species is a common bird on the banks of the Saskatchewan; where it is as familiar as the common Summer Yellow Bird (*S. æstiva*), which it also resembles closely in its manners, and in its breeding station, but is gifted with a more varied and agreeable song. It frequents the thickets of young spruce trees and willows, flitting from branch to branch, at no great distance from the ground, actively engaged in the capture of winged insects which now constitute its principal fare.

In mature specimens the anterior part of the back is pitch-black, with the centres of the posterior feathers also the same.

ROSCOE'S WARBLER.

(*Sylvia Roscöe*, Audubon, Ornith. Biogr. i. p. 124. pl. 24.)

Sp. Charact. — Very dark olive; below yellow; a white streak near and over the eye; a broad black patch from the corner of the eye passing over the ears; tarsus short.

This species was first discovered by Mr. Audubon in the State of Mississippi and not far from the river of the same name. It was pursuing its prey of winged insects in the upper branches of a tall Cypress, and uttered at short intervals a single *twitt*. It has a strong general resemblance to the Maryland Yellow-Throat, (*Sylvia Trichas*), but is sufficiently distinct. It is occasionally seen in the New England States, and particularly in this vicinity, (Cambridge,) in the same dark or low bushy thickets and swamps with

the Common Yellow-Throat, and probably breeds in this quarter, though it is most commonly seen towards the close of summer only. Its note, which I have heard, resembles in a measure that of its prototype *Trichas*, but it is much more varied and agreeably warbling. Its autumnal *twitt* also is louder, deeper, and easily distinguishable from that closely allied species.

The length of Roscoe's Yellow-Throat is about 5 and 1-8th inches; extent of the wings 6¼ inches; the bill above five twelfths of an inch; tarsus one third of an inch. Very dark olive, the margins of the feathers lighter; rump paler. Inner webs of the quills dark brown. Bill dark flesh-color, brown at the tip. Feet flesh color. Irids pale brown.

RATHBONE'S WARBLER.

(*Sylvia Rathbonia*, Audubon, Orn. Biog. i. p. 333. pl. 65.)

Sp. Charact. — Pale golden yellow; the back olive; wings and tail dark yellowish-brown edged with yellow; feet flesh-color. — The sexes nearly alike in plumage.

This elegant new species was discovered by Audubon in the alluvial forests of the Mississippi, where he met with a single pair, actively employed in the capture of winged insects, as they sported amidst the glowing blossoms of the splendid Trumpet-Flower, (*Bignonia radicans.*) The nest and habits of the species, probably a southern one, yet remain unknown.

The Rathbone Warbler is about 4½ inches in length; the bill from above, 4 lines long; tarsus 7 lines; the middle toe ½ an inch. General color bright yellow, the upper parts olivaceous. Quills and tail dusky-brown, the former yellow on the outer webs, the latter margined externally with the same color. Bill yellowish-brown above, beneath yellow. Feet flesh-color. Irids hazel. The 2d quill longest

BLACK-CAP TITMOUSE.

(*Parus atricapillus*, Linn. i. p. 341. sp. 6. Brisson, Orn. iii. p. 553. pl. 29. fig. 1. Swains. and Richard. North. Zool. ii. p. 226. Bonap. Synops. p. 100. No. 157. *Parus palustris*, Nutt. Man. Orn. i. p. 241.)

Following the authority of Temminck and Montagu, I considered this bird the same as the European Marsh Titmouse. I have since seen the bird of Europe in its native country, and have good reason to believe it wholly different from our lively and familiar Chicadee. Unlike our bird, it is rather shy, seldom seen but in pairs or solitary, never in domestic premises, usually and almost constantly near streams or water courses, on the willows, alders, or other small trees impending over streams, and utters now and then a feeble complaining or querulous call, and rarely if ever the '*chicka dee-dee.*' It also makes a noise in the spring, as it is said, like the whetting of a saw, which ours never does. The Chickadee is seldom seen near waters; often, even in summer, in dry shady and secluded woods; but when the weather becomes cold, and as early as October, roving families pressed by necessity and the failure of their ordinary insect fare, now begin to frequent orchards and gardens, appearing extremely familiar, hungry, indigent but industrious, prying with restless anxiety into every cranny of the bark or holes in decayed trees after dormant insects, spiders and larvæ, descending with the strictest economy to the ground in quest of every stray morsel of provision which happens to fall from their grasp. Their quaint notes and jingling warble are heard even in winter on fine days when the weather relaxes in its severity; and in short, instead of being the river hermit of its European analogue: it adds by its presence, indomitable action, and chatter, an air of cheerfulness to the silent and dreary win-

ters of the coldest parts of America. Dr. Richardson found it in the fur countries up to the 65th parallel, where it even contrives to dwell, as in other parts of the continent, throughout the whole year. In the history of its incubation, I remarked, observing a brood of 7 young birds in the hollow of a decayed tree, resting merely on the fragments of rotten wood, without the presence of a nest. I have since, seen a very soft nest made by the Chickadee, of moss, hair, feathers, &c. not much unlike that of *P. palustris*. The brood I met with, therefore, had only taken up their temporary abode in the deserted hole of a small Woodpecker, a habit of roosting, hiding and sheltering common both to old and young, when occasion requires.

Besides other differences, the European bird is one inch shorter than ours: the bill does not appear to be perfectly black; the black not extending so far below the chin; and the back not so distinctly bluish-ash.

HUDSONIAN TITMOUSE.

(*Parus Hudsonicus*, Forster, Phil. Transact. lxii. p. 408, — 430. Lath. Ind. ii. p. 557. Audubon, ic. ined. *Peche-kekeshish* of the Hudson's Bay Indians.)

Sp. Charact. — With the head and nape greyish rusty brown; the back brownish ash color; below greyish-white; a white line beneath each eye.

This more than usually hardy species continues the whole year about Severn river, braving the inclemency of the winters, and frequents the juniper bushes, on the buds of which it feeds. In winter, like the common species, they are seen roving about in small flocks, busily foraging from tree to tree. It is said to lay 5 eggs. Mr. Audubon met with it on the coast of Labrador.

Length 5 and 1-8 inches: alar extent 7. The head rusty-brown. Throat black. Feathers of the back brown, tipped with olive. Plumage of the breast and belly black, tipped with white. Sides under the wings tinted with ferruginous. Wings dusky; edges of the primaries cinereous. Tail brown, edged with the same as the quills. Legs black. The sexes nearly alike in plumage.

BARTRAM'S GREENLET.

(*Vireo Bartramii*, Swainson. North. Zool. ii. p. 235.)

Sp. Charact. — With the plumage of *V. olivaceus*, but brighter; wings shorter, more rounded; the 1st and 6th quills nearly equal, the 3d and 4th longest.

A specimen of this bird was procured by Mr. Douglass, on the banks of the Columbia. According to Swainson it also exists in Brazil and South Carolina. In *V. olivaceus* the 1st quill is longer than the 5th: in the present the 1st is shorter than the 5th. *V. Bartramii* is a very little shorter than *olivaceus*. The latter being $5\frac{1}{2}$ inches in length, the *Bartramii* 5 inches and $\frac{3}{10}$ths; bills of both, the same length. The wing in *olivaceus* 3 inches $\frac{1}{5}$; in the present 2 inches $\frac{4}{5}$ths: the tarsus the same in both. The specific character therefore seems to rest on the comparative length of the quills: any difference in habits are yet unknown.

LONG-BILLED GREENLET.

(*Vireo longirostris*, Swainson, North. Zool. ii. p. 237. [in note.] Edwards, p. 93. pl. 253.)

Sp. Charact. — Plumage of *V. olivaceus;* the chin margined with a black line; bill lengthened; wings short, when folded, not reaching to half the length of the tail: the 1st quill shorter than the 4th.

This species, entirely tropical, is found to be the true West India bird, known from its note by the name of *Whip-Tom-Kelly*. The

V. olivaceus has never yet been found in those islands. According to Dr. Browne, who furnished Edwards with a specimen, from Jamaica, which he has published, "it has not many notes, but they are loud and sweet."

The size and general plumage is similar, according to Swainson, with that of a new species which he terms *Vireo virescens* as well as *V. olivaceus*, excepting that the colors are somewhat duller than those of the last: but it is essentially distinguished by a narrow line of dusky-black, which margins each side of the chin: — Total length 5½ inches; the bill from the front six tenths of an inch; the wings 2 inches and seven tenths: the tarsus seven tenths of an inch. —

Obs. We have given this species a place in a note thus to complete the history of our own familiar *Vireo*, and with a suspicion that it occasionally also strays into the forests of the Southern States.

EUROPEAN WAXEN-CHATTERER.

(*Bombycilla garrula*, Bonap. Am. Orn. pl. 16. fig. 2. Richard. and Swains. North. Zool. ii. p. 237.)

Dr. Richardson informs us, that this bird appears in flocks at Great Bear Lake, about the 24th of May, when they feed on the berries of the alpine arbutus, marsh vaccinium, and other kinds exposed again to the surface after the spring thaw. Another flock of 3 or 400 individuals was seen on the banks of the Saskatchewan, at Carlton House, early in the same month. In their usual manner, they all settled together on one or two trees, and remained together about the same place for an hour in the morning, making a loud twittering noise, and were too shy to be approached within gunshot. Their stay at most did not exceed a few days, and none of the Indians knew of their nests; though the Doctor had reason to believe that they retired in the breeding season to the broken and desolate mountain-limestone districts in the 67th or 68th parallels, where

they find means to feed on the fruit of the common juniper, so abundant in that quarter. Mr. Audubon has observed a few stragglers of this species in the autumn in this part of Massachusetts.

CEDAR BIRD.

(*Bombycilla Carolinensis*, Bonap. Syn. No. 68. *B. americana*, Rich. and Swains. North. Zool. ii. p. 239.)

Of this bird, so common in the United States, Mr. Drummond saw small flocks on the south branch of the Saskatchewan. It likewise frequents the northern shores of Lakes Huron and Superior in the summer.

The scarlet wax-like appendages on the secondaries, as I have elsewhere remarked, are sometimes conspicuous the moment the young bird is fledged. At other times whole flocks of young birds may be seen without any vestige of these accidental ornaments, and more particularly in those which are hatched late in the season. In these birds also there is less black about the face, and the whole color is more obscure, grey and plumbeous; whether these alter after moulting, or blending among others form the plain individuals, almost always met with in every flock, remains to be ascertained.

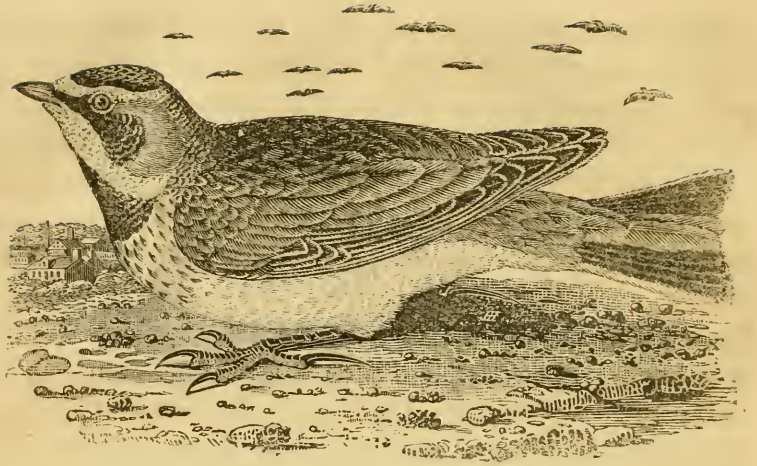
CALENDRE LARK.

(*Alauda calandra*, Linn. Syst. p. 288. Lath. iii. p. 382. Rich. and Swains. North. Zool. ii. p. 244. Calandra Lark, Penn. Arct. Zool. ii. No. 280. The Calandra, Edwards, Glean. pl. 268. *La Calandra, ou Grosse Alouette*, Buff. v. p. 49. Id. Pl. Enlum. 363.)

Sp. Charact. — Dark reddish-brown; a black line from the bill passing beyond the eye, and a narrow crescent of the same across the breast; belly, vent, and throat white.

Edwards, on the authority of a dealer in birds, was the first who described this bird as American; but no subsequent author mentions having seen specimens from this continent. There is, however, an individual from the fur countries in the British Museum, presented by the Hudson's Bay Company, which, according to Richardson, differs from an European example solely in having the bill and tarsus rather shorter. This species is common in the southern parts of Europe. In Asia it is seen around Aleppo, and is frequent in the Tartarian deserts which border the Don and the Volga.

In this specimen from Hudson's Bay, the upper plumage is liver-brown, with pale margins. The throat, belly, inner borders of the tertiaries, exterior tail feathers, and the ends of the adjoining pair, white; the other tail feathers, except the middle pair, slightly tipped with the same. Flanks and breast pale brown, the latter spotted with umber. A dark brown collar on the anterior base of the neck, and two umber-brown marks on the sides of the same, separated by white. Bill greyish, tipped with brown; strong, somewhat compressed, and very slightly curved. The hind claw is long and straight. — Length 7½ inches; the tail 3 inches; the bill above, 9 lines; tarsus 1 inch 2 lines.



HORNED, OR SHORE LARK.

(*Alauda cornuta*, WILSON. RICH. and SWAINS. North. Zool. ii. p. 245. *A. alpestris*, LATH. BONAP. Syn. No. 158. NUTT. Man. Orn. i. p. 455.)

THIS handsome Lark arrives in the fur countries along with the Lapland Bunting, with which it associates, and being more shy, acts the sentinel usually to the whole company in advertising them of the approach of danger. It soon after retires to the marshy and woody districts to breed, extending its summer range to the Arctic Sea. According to Hutchins it nests on the ground, and lays 4 or 5 white eggs, spotted with black. Mr. Audubon also found this species breeding on the low, mossy and sheltered hills along the dreary coast of Labrador; making a nest of withered grass, &c. sunk a little below the surface. The male, he adds, like the Common Lark, soars into the air, sings with cheerfulness over the resort of his mate, and roosts beside her and his nest on the ground, having at this season a very remarkable appearance in the developement of the black and horn-like egrets. The whole group are spiritedly drawn by Audubon in his most happy and animated style.

SNOW-BUNTING.

(Emberiza nivalis, Wilson. *E. (Plectrophanes) nivalis*, Meyer. Rich. and Swains. North. Zool. ii. p. 246.)

This harbinger of winter breeds in the northernmost of the American islands, and on all the shores of the continent from Chesterfield Inlet to Behring's Straits. The most southerly of its breeding stations in America, according to Richardson, is Southampton Island in the 62d parallel, where Capt. Lyons found a nest, by a strange fatality, placed in the bosom of the exposed corpse of an Esquimaux child. It is composed of dry grass, and usually lined with deer's hair, and a few feathers, and is commonly fixed in the crevice of a rock, or in the accidental and rude shelter of loose stones or fallen timber. The eggs are greenish-white, with a circle of irregular umber-brown spots round the larger end, and blended with numerous blotches of pale lavender-purple. Well-clothed, and hardy by nature, the Snow-Bunting even lingers about the forts of the fur countries and open places, picking up grass seeds, until the snow becomes deep; it is only during the months of December and January that it retires to the southward of the Saskatchewan; and it is seen again there on its return as early as the middle of February; two months after which it arrives in the 65th parallel, and by the beginning of May it has penetrated to the coast of the Polar sea. At this period it feeds upon the buds of the Purple Saxifrage *(Saxifraga oppositifolia,)* one of the most early of the arctic plants.

As the Snow-Bunting sometimes begins to visit the United States in October, it appears pretty certain that some of these birds breed, almost, if not quite within the northern limits of the Union. And as stated elsewhere, a nest has been found near the rocky summit of the White Mountains of New Hampshire.

PAINTED BUNTING.

(*Emberiza (Plectrophanes) picta*, Swainson, North. Zool. ii. p. 250. pl. 49.)

Sp. Charact. — With the head black; a line passing over the eye, a small spot on the nape, another on the ears, and a large patch on the wing, white; collar and the whole under plumage buff-yellow.

This beautifully marked species was observed associating with the Lapland Buntings or Long-Spurs, on the banks of the Saskatchewan, in the month of April, but no information was obtained respecting its breeding quarters.

Length 6 inches 3 lines; tail 2½ inches; the bill above, 5¾ inches; the tarsus 10 lines. Head and sides velvet-black. Three strongly marked pure white stripes on the sides of the head, one bordering the chin, another on the ear, and a third above the eye; a less distinct spot on the middle of the nape. Neck above wood-brown; the back, and lower rows of wing coverts blackish-brown, broadly edged with paler brown; the intermediate coverts pure white, and the upper ones entirely black. Quills and tail brownish-black, with narrow white edges: the 2 outer pairs of tail feathers white, with their outer tips and inner edges brown. Below of an intermediate color between wood-brown and buff-orange. Inner wing coverts white. Bill blackish-brown, pale at the base beneath. Legs brown. The tail exceeds the tips of the closed wings an inch.

CLAY-COLORED BUNTING.

(*Emberiza pallida*, Swainson, North. Zool. ii. p. 251.)

Sp. Charact. — Clay-colored brown, striped with blackish; beneath white, unspotted; the head with 3 pale and 2 blackish macular stripes; auriculars brownish.

This species, even smaller than the *Emberiza pusilla*, visits the Saskatchewan in considerable numbers. It frequents the farm-yard at Carlton House, and is as familiar and

confident as the common House-Sparrow of England. It has much the habit of *E. pusilla*, which differs however, from the present by its more robust and cinnamon-colored bill, in the chestnut-brown crown and back, &c.

Length 5 inches 9 lines; tail 2 inches 8 lines; wing 2½ inches; the bill above, 4 lines; tarsus 7½ lines. Light clay color, or yellowish brown; French grey towards the nape; in the middle of each feather a dark blackish-brown stripe down the middle, not conspicuous on the back feathers; these spots are crowded into two stripes on the head, between which is a paler line; over each eye is another, much more conspicuous, and whiter. Auricular feathers yellowish-brown, with darker edgings, and bordered below with a stripe whiter than the throat. Lesser or smallest wing coverts without spots; the row adjoining the greater coverts black, with whitish tips; the rest of the covers and quills edged with the same. Below white, tinged very slightly with grey, and, on the breast and flanks, with clay color. Bill and legs yellowish, the ridge and tip of the former umber-brown. In the structure and proportion of its wings, feet and tail, it perfectly resembles *Emberiza schœniculus*.

TREE-SPARROW OR BUNTING.

(*Emberiza canadensis*, SWAINS. North. Zool. ii. p. 252. *Fringilla canadensis*, BONAP. Synops. No. 175. NUTT. Man. Orn. 1. p. 495.)

THE Tree-Bunting arrives, in small flocks, on the banks of the Saskatchewan, in the third week in April, and, after a short halt proceeds farther north to breed. Audubon found this species breeding in Labrador, at which time it sings with considerable energy. The nest built in the forks of a bush, is made compactly, almost like that of the Yellow Bird or American Goldfinch, and the eggs, except in their superior size, are similar with those of the Chipping Sparrow.

REED BUNTING.

(*Emberiza schœniculus*, Linn. Syst. i. p. 311. sp. 17. Lath. Ind. v. sp. 13. Temm. Man. d'Orn. i. p. 307. *E. arundinacea*, Gmel. Syst. i. p. 881. Lath. Ind. p. 403. *Ortolan de Rosseaux*, Buff. Ois. iv. p. 315. Ib. Pl. Enlum. 247. fig. 2. [male.] and 477. fig. 2. [female.] Reed Bunting, Brit. Zool. No. 120. Arct. Zool. ii. p. 368. *E.* Lewin's Brit. Birds, ii. t. 75. Bewick. Brit. Birds, p. & t. 145. Selby, Illust. pl. 52. fig. 5, 6. 8vo. p. 242. — *Emberiza passerina*, Lath. Ind. Orn. iii. sp. 14. [young].)

Sp. Charact. — Black, varied with rufous and grey; head, chin, and throat black; a white ring round the head from the base of the bill; the breast and belly white. — *Female*, with the head rufous-brown streaked with dusky; no white ring.

This bird, so common in the north of Europe, as I learn from Mr. Audubon, has been recently killed in the vicinity of Harrisburg in Pennsylvania. According to Pennant it is found as far north as Denmark, but is rare in Sweden. It is likewise common in the south of Russia and Siberia.

The Reed Sparrow in the north of England, where most common, seems to have a predilection for wet and marshy tracts near streams, and frequents willows and low bushes on which it often perches, conspicuous and familiar, while engaged in delivering its monotonous ditty, which consists merely of two notes, the first three or four times repeated, and the last single and more sharp. This very humble lay is sometimes continued from the same spray, for a considerable time, while the female is engaged in the cares of incubation. Nesting and dwelling often in the vicinity of the melodious and retiring Sedge-Bird, it has inadvertently acquired undeserved credit as a songster to which it was not entitled.

The nest is commonly placed on the ground near water; sometimes in a bush some distance from the ground; at other times in high grass, reeds, sedge, or even among the furze

at a considerable distance from any water. The nest is composed of stalks of grass or other dry vegetable substances, sometimes mixed with moss and lined with fine grass, frequently finished with long hair. The eggs 4 or 5, are of a dull bluish-white, or purplish-brown, with numerous dark colored spots and veins.

The length of the Reed Sparrow is about 6 inches. The head, chin, throat, and sometimes a great portion of the breast, black. From the base of the bill commences a white ring, which grows broader behind the ears, and encircles the head; the breast often as well as the belly white. The sides grey, marked with a few dark brown strokes. Back black, the feathers widely bordered with reddish-brown, interspersed with grey, which latter becomes more prevalent towards the rump. Quills and primary coverts dusky, edged with rufous. Tail black, the 2 middle feathers bordered with rufous, the two exterior on each side marked obliquely with a variable proportion of white; the shafts and tips black. The *female* is rather less; with the head rufous-brown, streaked with dusky; from each side the under mandible a dusky line passes under the neck, where it joins a bed of that color. Behind the eye a light colored stroke, the breast streaked with reddish-brown. Rump plain olive-brown. There is no white ring round the head.

WHITE-CROWNED FINCH.

(*Fringilla leucophrys*, Bonap. Synops. No. 167. Rich. and Swains. North. Zool. ii. p. 255.)

This elegant species extends its summer visits to the extremity of the continent; breeding in all parts of the fur countries, arriving in the middle of May, and departing early in September to the northern parts of the United States to pass the winter. It makes short flights and keeps much on the ground, feeding on grass seeds and larvæ. The male sings, from a low perch a short, clear, and pleasant song.

The nest is built on the ground, of grass, and lined with hair; the eggs generally 5, are celandine or pale green, marbled thickly with pale brown or chocolate-red, particularly at the greater end. Mr. Audubon found this species breeding on the coast of Labrador.

WHITE-THROATED FINCH.

(*Fringilla pennsylvanica*, Bonap. Synops. No. 269. Rich. and Swains. North. Zool. ii. p. 256.)

This species arrives at the Saskatchewan about the middle of May, and spreads throughout the fur countries up to the 66th parallel to breed. The nest is made on the ground, of withered grass, and lined with deer's hair and some feathers. Another nest, found by Dr. Richardson at Great Bear Lake was ingeniously lined with the bristles of a moss (*Bryum uliginosum*). The eggs are pale mountain-green, thickly marbled with reddish-brown. On being disturbed the female crouches and runs off in silence like a Lark. The male has a clear song of two or three very distinct notes, but without variety.

FOX-COLORED FINCH.

(*Fringilla iliaca*, Bonap. Synops. No. 185. Rich. and Swains. North. Zool. ii. p. 257.)

This handsome Finch breeds in the woody districts of the fur countries up to the 68th parallel of latitude. The nest is made in a low bush, of dry grass, hair, and feathers, and the eggs are 5, of a pale mountain-green tint, marbled with irregular brown spots. The male perched near his mate, sings cheerfully and pleasantly. They are sometimes heard to sing as the spring approaches, in their winter quarters in North and South Carolina.

BLACK-FINCH, or SNOW-BIRD.

(*Fringilla hiemalis*, Linn. *F. nivalis*, Wilson. Nutt. Man. Orn. i. p. 491.)

This species is merely a summer resident in the fur countries, and is not common, nor is it seen apparently beyond the 57th parallel. Though their autumnal note is generally but a chirp, we now and then hear an interrupted warble from the young birds, commonly at the instant of contending with each other, or immediately after.

ARCTIC GROUND-FINCH.

(*Fringilla arctica*, Nobis. *Pyrgita* (Pipilo) *arctica*, Swains. North. Zool. ii. p. 260. pl. 51. [male.] pl. 52 [female].)

Sp. Charact. — With the head, neck, and upper plumage blackish (in the female ferruginous-brown;) back, scapulars, and wing coverts striped with white; 1st and 8th quills nearly equal in length.

This handsome Ground-Finch was observed only on the plains of the Saskatchewan, where it no doubt breeds, as one specimen was killed late in July. It arrives about the close of May, and frequents shady and moist woods, where it is generally seen on the ground. Its habits, in short, correspond with those of the Towhè Bunting, which it so much resembles in external appearance. It feeds much on larvæ, and is a solitary and retired, but not a distrustful bird.

The length about 8 inches 9 lines; the tail 4 inches; the folded wing 3½ inches; the bill above about ½ an inch; the tarsus 1 inch 1 line. The head, neck, above and below, scapulars, interscapulars, all the wing coverts, and tail, pitch-black; some of the breast feathers fringed with white. A pure white stripe, half the breadth of the web, on the outer edge of each of the scapulars and interscapulars, and the greater and lesser coverts tipped with the same. The 3 exterior

pairs of tail feathers tipped internally with an oval patch of white, the outer pair also edged with white. Quills hair-brown, the 2d to the 4th inclusive partially edged with an oblique white line, the rest narrowly edged with light French grey. Middle of the breast and belly pure white. Sides, flanks, and under tail coverts deep and bright ferruginous. Inner wing coverts greyish-white. Bill black. Legs pale brown

This species differs from *F. erythropthalma* in having a smaller bill, with the ridge less arched, the claws are also more slender, somewhat longer and obviously less curved. The tarsi are less robust, and one tenth of an inch shorter. The 1st quill feather is manifestly longer, the 1st and 8th quill feathers are nearly equal in length; whereas in the Common Ground-Robin the 1st quill is scarcely equal to several of the secondaries. — Note. The *Pipilo maculata*, Swainson, of Mexico approaches very near to the present.

WHITE-WINGED CROSSBILL.

(*Loxia leucoptera*, Gmel. Bonap. Nutt. Man. Orn. i. p. 540.)

This species, according to Richardson, inhabits the dense white spruce forests of the fur countries, feeding principally on the seeds of the cones. It ranges through the whole breadth of the continent, and probably up to the 68th parallel, where the forests terminate. It is usually seen in the upper branches of trees, and, when wounded, still clings so fast as to remain suspended after death. In September collecting in small flocks, they fly from tree to tree in a restless manner and make a chattering noise; and in the depth of winter they retire from the coast to seek shelter in the thick woods of the interior.

Loxia curvirostra, was not observed by the naturalists of the northern expeditions in any part of the fur countries. It is however described by Forster. In the winter of 1832, during, or soon after a severe snow storm, a large flock of

these uncertain winter visiters were seen in a Red Cedar grove near to Mount Auburn in this vicinity. The present season, (1833,) accompanied by the White-Winged species, a flock of the same birds made their appearance, as early as the 11th of November, in some tall Pine trees, in the same place, they visited the last year in the depth of winter. They are very busy and unsuspicious, have very much the manners of Parrots in their feeding. At some distance beneath the trees where they are engaged, we can hear them forcing open the scales of the rigid pine cones with a considerable crackling, and the wings of the seeds fly about in all directions. Sometimes the little Red Polls also attend to snatch a seed or two as they are spread to the winds. They fly somewhat like the Yellow-Birds, by repeated jerks and sinkings and risings in their course, but proceed more swift and direct to their destination; they also utter a rather loud and almost barking or fifing chirp, particularly the females, like *'tsh 'tship, 'tsh 'tship.* Their enemies seem also to follow them into this distant and unusual retreat. One evening, as they were uttering their quailing chirp, and about to roost in the Pines, we heard an unusual cry, and found that the alarm was justly occasioned by the insidious and daring attack of a bold Butcher-Bird *(Lanius borealis),* who had taken advantage of their bewildered confusion at the moment of retiring to repose. Besides their call and ordinary plaints, we hear, as I have thought, now and then, in the warmer part of the day a rather agreeable, but somewhat monotonous song. We found these birds, as well as the Red Polls, very fat and plump; and they devour a great quantity of pine seeds, with which the æsophagus is perpetually gorged as full as in the gluttonous and tuneless Cedar-Birds *(Bombycilla.)*

LESSER REDPOLL.

(Fringilla linaria, Linn. Nutt. Man. Orn. i. p. 512. *Linaria minor*, Ray. Rich. and Swains. ii. p. 267. Lesser Redpoll, Penn. Arct. Zool. ii. p. 379. No. 262. Arctic Finch, Idem. p. 379. *A.* [young.] *Le Sizerin*, Buff. Ois. iv. p. 216. Id. Pl. Enlum. 151, 2.)

According to Richardson, this is one among the few hardy and permanent residents in the fur countries, where it may be seen in the coldest weather, on the banks of lakes and rivers, hopping among the reeds and carices, or clinging to their stalks. They are numerous throughout the year, even in the most northern districts, and from the rarity of their migrations into the United States, it is obvious that they are influenced by no ordinary causes to evacuate the regions in which they are bred. Famine in all probability, or the scarcity of food urges them to advance towards the south. It is certain that they do not forsake their natal regions to seek shelter from the cold. This season, by the 7th or 8th of November (1833,) before the occurrence of any extraordinary cold weather, they arrived in this vicinity (Cambridge, Mass.) in considerable flocks, and have not paid a visit to this quarter before, to my knowledge, for 10 or 12 years. They now regularly assemble in the birch trees every morning to feed on their seeds, in which employment they are so intent, that it is possible to advance to the slender trees in which they are engaged, and shake them off by surprise before they think of taking wing. They hang upon the twigs with great tenacity, and move about while feeding in reversed postures like the Chickadees. After being shot at, they only pass on to the next tree and resume their feeding as before. They have a quailing call perfectly similar with that of the Yellow-Bird *(Fringilla tristis)*, *twée twée,* or *tshe-vée;* and when crowding together in flight, make a confused chirping *'twit 'itwit 'twit 'twit 'twit*, with a rattling

noise, and sometimes go off with a simultaneous twitter. Occasionally they descend from their favorite birches and pick up sun-flower seeds and those of the various weedy *Chenopodiums* growing in wastes. At length they seemed attracted to the Pines, by the example of the Crossbills and were busily employed in collecting their seeds. As the weather becomes colder they also roost in these sheltering evergreens; and confused flocks are seen whirling about capriciously in quest of fare, sometimes descending on the fruit trees, to feed on their buds, by way of variety. Though thus urged from their favorite regions in the north there appeared no obvious reason for their movements, as we found them fat, and not driven to migrate from any imminent necessity.

GREY-CROWNED LINNET.

(*Fringilla tephrocotis*, Nobis. *Linaria* (Leucosticte) *tephrocotis*, Swainson, North. Zool. ii. p. 265. pl. 50.)

Sp. Charact. — Umber-brown; crown blackish; hind head greyish-white; lesser wing and tail coverts with the flanks, tipped with rose-red.

Only a single specimen of this singular new bird was obtained on the banks of the Saskatchewan, in the month of May.

Length 6 inches 9 lines; the tail 2 inches 8 lines; the folded wing 4 inches; the bill above ½ an inch, to the rictus 6½ lines; tarsus 9 lines; middle toe ½ an inch. — Dark chestnut-brown or deep umber color, somewhat paler on the belly, and darkest on the chin, neck and ears. Front brownish-black, gradually changing posteriorly into shining ash-grey, which becomes almost white on the hind head. Nasal feathers whitish and shining. Wings, tail, and their coverts clove-brown. The lesser wing coverts broadly edged with bright peach-blossom red; the greater coverts more slightly margined with red; and the wings and tail have only narrow and pale edgings. Rump

and upper tail coverts broadly tipped with rose-red; the flanks and under tail coverts the same, but paler. Wings very long and pointed, the 3 first quills nearly equal.

EVENING GROSBEAK.

(*Fringilla vespertina*, Cooper. Rich. and Swains. North. Zool. ii. p. 269. pl. 68. Nutt. Man. Orn. i. p. 526.)

This very brilliant and remarkable bird is a common inhabitant of the maple groves which occupy the plains of the Saskatchewan; and hence arises its common aboriginal Cree name of the Sugar-Bird (*Seesebasquit-pethaysish*). It arrives in the fur countries with the last of the summer residents considerably beyond the commencement of the month of June. It also frequents the borders of Lake Superior and the eastern declivity of the Rocky Mountains, in the latitude of 56°.

ROSE-BREASTED GROSBEAK.

(*Fringilla ludoviciana*, Bonap. Nutt. Man. Orn. i. p. 527.)

On the dreary and desolate coast of Labrador Mr. Audubon found this species breeding commonly. In the interior of the fur countries, however, it appears to be sufficiently rare, since merely a single specimen was obtained near the Saskatchewan on Sir John Franklin's first Expedition, and none afterwards.

SAFFRON-HEADED TROOPIAL.

(*Icterus xanthocephalus*, Bonap. Synops. p. 52. No. 52. *I. icterocephalus*, Idem. Orn. i. p. 27. pl. 3. Nutt. Man. Orn. i. p. 176. *Agelaius xanthocephalus*, Swains. North. Zool. ii. p. 281.)

This bird is very numerous in the fur countries, its summer range, as well as that of the Red-Winged Blackbird,

with which it associates, being about the 58th parallel, but has not been seen eastward of Lake Winnipeg, or the Mississippi. It arrives on the banks of the latter from the southward in the middle of May, and by the 20th of the same month it is seen on the plains of the Saskatchewan, where associated with its sable relative, as already mentioned, and with the Purple Grakle, but in even greater numbers, they commit serious havoc in the corn-fields, tearing up the sprouting grain with the greatest boldness and perseverance, returning to one side of the field as fast nearly as they are chased from the other. Their manners, in short, are precisely like those of the Red-Wings. It would appear that this species, distinct from the *icterocephalus*, is yet unknown in the other parts of the continent; though in the range of the Rocky Mountains it will no doubt commonly visit Mexico.

BALTIMORE ORIOLE.

(*Icterus Baltimore*, Daudin. Bonap. No. 49. Rich. and Swains. North. Zool. ii. p. 284. Nutt. Man. Orn. i. p. 152.)

The summer range of this beautiful bird in the fur countries extends to the 55th degree of latitude, arriving on the plains of the Saskatchewan, according to Richardson about the 10th of May, or nearly as early as their arrival in Massachusetts. Those which thus visit the wilds of Canada, in all probability proceed at once from Mexico or ascend the great valley of the Mississippi and Missouri.

Since publishing the account of this bird in the first volume of the present Manual, I have had a male bird in a state of domestication, raised from the rest very readily on fresh minced meat soaked in milk. When established, his principal food was scalded indian corn-meal, on which he fed con-

tentedly, but was also fond of sweet cakes, insects of all descriptions, and nearly every kind of fruit. In short, he eat every thing which he would in a state of nature, and did not refuse to taste and eat of every thing but the condiments which enter into the multifarious diet of the human species: he was literally omnivorous.

No bird could become more tame, allowing himself to be handled with patient indifference, and sometimes with playfulness. The singular mechanical application of his bill was remarkable, and explains at once the ingenious art employed by the species in weaving their nest. If the folded hand was presented to our familiar Oriole, he endeavored to open it by inserting his pointed and straight bill betwixt the closed fingers, and then, by pressing open the bill with great muscular force, in the manner of an opening pair of compasses, he contrived, if the force was not great, to open the hand and examine its contents. If brought to the face he did the same with the mouth, and would try hard to open the closed teeth. In this way, by pressing open any yielding interstice, he could readily insert the threads of his nest, and pass them through an infinity of openings so as to form the ingenious net-work or basis of his suspensory and procreant cradle.

In the spring of 1832, while travelling in the month of May through the back part of Pennsylvania, the trees, now rapidly unfolding their tender leaves, were peopled with hosts of melodious birds, and among the rest was heard pre-eminent the loud and querulous fife of the brilliant Baltimore. My attention was thus accidentally drawn to watch the employment of a busy female of the species, who, attended by her gay, brilliant, and tuneful mate, seemed nearly to have completed the fabric of her nest, in obedience to the instinct of her favorite hopes of progeny. She seemed, however, to tug long in the same mesh, and on drawing

near, I perceived with dismay and surprise, that the feet of our busy Oriole were forcibly entangled in the side of the nest. Apprehending the fate of these toilsome and fruitless struggles, I endeavored to interest some bystanders so far, as to sever down the lofty bough of the Button-Wood, in which the distressing scene had occurred; but while we delayed, from the difficulty of the task, the unhappy victim to this frustrated instinct, cleared her feet, and now got entangled by the neck. In this sad predicament of our bird I had to leave the premises, and have little doubt but that the hopes and endeavors of this active tenant of the grove were soon terminated in death. The male, though uneasy, seemed both unconscious of the danger of his mate and unable or unconcerned in the means of her escape.

RUSTY GRAKLE.

(*Quiscalus ferrugineus*, Bonap. Nutt. Man. Orn. i. p. 199.)

In addition to the geographical limits of this species we may add, according to Richardson, that it is the most northern of its family, in its summer or breeding range, proceeding as far as the 68th parallel, or as high in the fur countries as the forests extend. It arrives on the Saskatchewan by the end of April, and at Great Bear Lake in 65° by the 3d of May, usually in pairs, and for a time frequenting the beaches of secluded lakes, and feeding on coleopterous insects. Later in the season they join the flocks of Red-Wings, Purple Grakles, and Cow Buntings in committing depredations in the corn-fields.

CANADA JAY, OR WHISKEY-JACK.

(*Corvus canadensis*, BONAP. NUTT. Man. Orn. i. p. 232. *Garrulus canadensis*, RICH. and SWAINS. North. Zool. ii. p. 295. *Quæquæ-shew*, of the ALGONQUINS, and *Whiskæ-shawneesh*, of the CREES.)

SP. CHARACT. — Brownish-grey; below yellowish-grey; hind head and nape black; front, throat, and sides of the neck white.

THIS inelegant but familiar bird, inhabits all the woody districts of the remote fur countries from the 65th parallel to Canada, and now and then in severe winters extends its desultory migrations within the northern limits of the United States. Scarcely has the winter traveller in those cold regions chosen a suitable place of repose in the forest, cleared away the snow, lighted his fire, and prepared his tent, when the Whiskey-Jack insidiously pays him a visit, and boldly descends into the social circle to pick up any crumbs of frozen fish, or morsels of dry meat that may have escaped the mouths of the weary and hungry sledge-dogs. This confidence is almost the only recommendation of our familiar intruder. There is nothing pleasing in his voice, plumage, or attitudes. But this dark sinister dwarf of the north is now the only inhabitant of those silent and trackless forests, and trusting from necessity in the forbearance of man, he fearlessly approaches, and craves his allowed pittance from the wandering stranger who visits his dreary domain. At the fur posts and fishing stations he is also a steady attendant, becoming so tamed in the winter by the terrible inclemency of the climate as to eat tamely from the offered hand; yet, at the same time, wild and indomitable under this garb of humility, he seldom survives long in confinement, and pines away with the loss of his accustomed liberty. It hops with activity from branch to branch, but when at rest, sits with its head drawn in, and with its plumage loose. The voice of this inelegant bird is plaintive

and squeaking, though it occasionally makes a low chattering, especially when its food appears in view. Like our Blue Jay it has the habit of hoarding berries, morsels of meat, &c. in the hollows of trees, or beneath their bark. These magazines prove useful in winter, and enable it to rear its hardy brood even before the disappearance of the snow from the ground, and long before any other bird indigenous to those climates. Its nest is concealed with such care that but few of the natives have ever seen it.

SHORT-BILLED JAY.

(*Corvus* (Garrulus) *brachyrynchus*, Nobis. *Garrulus brachyrynchus*, Swainson, North. Zool. ii. p. 296. pl. 55. *Jeeza*, of the Copper Indians, and Dog-Ribs.)

Sp. Charact. — Bluish-grey, darker on the head: frontlet, chin, orbits and ears blackish: bill short.

The only specimen obtained of this dusky and inelegant bird, according to Richardson, was killed on the roof of the dwelling house at Fort Franklin. Its general appearance and manners resemble those of the Canada Jay so strongly, that it was not recognised as a distinct species, and consequently it could not be ascertained whether it replaced the Canadian species in high latitudes, or whether both existed in the same range of climate.

Length 10 inches; the tail 4 inches 3 lines; length of the wing 5 inches 2 lines; the bill above, 8 lines, to the rictus 10½ lines; tarsus 1½ inches; the middle toe 9 lines long. — Bluish-grey, lightest on the rump and belly; deepening on the head and wing coverts to blackish-grey. Frontlet, orbits, chin, and ears blackish; breast tinged with yellowish-grey. Shafts of the quills and tail, and inner webs of the former, pitch-black; tips of the lesser quills and tail pale yellowish-grey, approaching to white. Bill blackish, the commissure and tip pale. Legs blackish-brown. Bill similar to that of *C. canadensis* but a little shorter, rather broader at the base. Wings 3 inches shorter than the tail.

DOWNY WOODPECKER.

(*Picus pubescens*, Bonap. Syn. No. 43. Nutt. Man. Orn. i. p. 576. *P.* (Dendrocopus) *pubescens*, Swain. North. Zool. ii. p. 307.)

Sp. Charact. — Varied with black and white; beneath white; crown and hind head black, the latter margined by a red band: 2d quill much shorter than the 7th. — Obs. The lateral tail feathers broad and obtuse; the shafts broad, each terminating in an abrupt point, and not reaching to the apex of the extreme barbs.

This diminutive and very industrious species is a constant inhabitant of the fur countries up to the 58th parallel; seeking its food principally on the maple, elm, and ash; and north of latitude 54°, where the range of these trees terminate, on the aspen and birch. The circles of round holes which it makes with so much regularity round the trunks of living trees, are no doubt made for the purpose of getting at the sweet sap which they contain. In the month of February (1830) I observed these borers busy tapping the small live trunks of several Wax-Myrtles (*Myrica cerifera*), and these perforations were carried down into the alburnum or sap-wood, but no further; no insects could be expected, of course, in such situations, and at this season very few could be obtained any where. On examining the oozing sap, I found it to be exceedingly saccharine, but in some instances, astringent or nearly tasteless. To a bird, like the present, which relishes and devours also berries, I make no doubt but that this native nectar is sought after as agreeable and nutritious food, in the same manner as the Baltimore Bird collects the saccharine secretion of the fruit blossoms; and in fact I have observed the Woodpecker engaged in the act of sipping this sweet fluid, which so readily supplies it on all occasions, with a temporary substitute for more substantial fare. Sometimes, however, on discovering insects in a

tree, it forgets its taste for the sap, and in quest of its prey occasionally digs deep holes into the trees large enough to admit its whole body.

LITTLE MIDLAND WOODPECKER.

(*Picus* (DENDROCOPUS) *medianus*, SWAINS. North. Zool. ii. p. 308. [in a note].)

SP. CHARACT. — Varied with black and white; crown black, with the hind head red, and both spotted with white: 2d quill much longer than the 7th.

OBS. Lateral tail feathers narrowed and pointed at the ends: the shafts narrow, gradually pointed, and extending to the apex of the feathers.

THIS species, if such it may prove, appears to be confined to the Middle States principally; and is not uncommon in New Jersey. It closely resembles *P. pubescens* in its size and general appearance, and is confounded with it. The *female* differs in having the upper part of the head wholly black.

LITTLE GEORGIAN WOODPECKER.

(*Picus* (DENDROCOPUS) *meridionalis*, SWAINS. North. Zool. ii. p. 308 [in note].)

SP. CHARACT. — Varied with black and white; beneath grey; crown black, a broad red band on the hind-head; 2d quill equal to the 8th.

THIS species is smaller than *P. pubescens*, which it resembles generally, as well as in the structure of the shafts, and rounded form of the tail feathers. The under plumage however is *hair-brown* (as dark, but not so yellow, as that of *Picus major*) instead of white, or whitish, as in *P. pubescens;*

the red band is, however, much broader, and the relative lengths of the quills are different. — It inhabits Georgia. (Described from two specimens.)

COMMON THREE-TOED WOODPECKER.

(*Picus* (Apternus) *tridactylus*, Swainson, North. Zool. ii. p. 311. Three-toed Woodpecker, Edwards, pl. 114. Penn. Arct. Zool. ii. No. 168.)

Sp. Charact. — Varied with black and white; forehead spotted; crown pale yellow; bill considerably depressed.

According to Richardson, this bird exists as a permanent resident in all the spruce forests between Lake Superior and the Arctic Sea, and is the most common Woodpecker north of Great Slave Lake. It resembles *P. villosus* in its habits, seeking its food, however, principally on decaying trees of the Pine tribe, in which it frequently burrows holes large enough to bury itself.

Length 9½ inches; tail 3½; wing 4½ inches; the bill above, 1 inch 1 line; the tarsus 9½ lines. — Crown pale saffron-yellow, with white specs; the rest of the upper surface and sides of the head velvet-black, thickly spotted with white on the forehead, round the crown, and on the sides of the throat. A white line from the eye to the nape, and another from the nostrils under the eye. Back and wings blackish-brown; inner scapulars and hind part of the back barred with white. Tips of most of the quills, and a series of spots on their margins, also white. Two middle pairs of tail feathers brownish black; two exterior pairs barred with black at the base; and the intermediate pair largely tipped with white. Chin, throat, a line down the middle of the belly, and the under tail-coverts, white; sides of the belly and inner wing-coverts barred with black. Bill bluish-grey above, whitish beneath. Legs lead colored. — *Female* smaller, and without the yellow on the crown, the top of the head being thickly spotted with white.

ARCTIC THREE-TOED WOODPECKER.

(*Picus* (Apternus) *arcticus*, Swains. North. Zool. ii. p. 313. pl. 57. *Picus tridactylus*, Bonap. and Nutt. Man. Orn. i. p. 378.)

Sp. Charact. — Above glossy black, with white spots on the quills only; beneath white; sides lineated with black; crown saffron-yellow.

What we have said under this species applies exclusively to the preceding with which it has till now been confounded. The present is a larger bird, with the bill longer in proportion and more depressed. It has been seen only on the eastern declivity of the Rocky Mountains, where the preceding is also found.

RED-SHAFTED WOODPECKER.

(*Picus* (Colaptes) *Mexicanus*, Nobis. *Colaptes Mexicanus*, Swains. North. Zool. ii. p. 315. *Picus Cafer*, Lath. Ind. *Colaptes collaris*, Vigors. Zool. Journ. 15. p. 354.)

Sp. Charact. — Shafts of nearly all the feathers reddish-orange; maxillary stripe blood-red; body beneath vinaceous. The rest of the plumage generally as in *P. auratus*.

This species, so similar to *P. auratus* in size and the general colors and markings of the plumage, inhabits Mexico, New California, and the coast of the Pacific for some distance to the northward of the Columbia River.

WINTER WREN.

(*Troglodytes hiemalis*, Vieillot. Rich. and Swains. North. Zool. ii. p. 318. Winter Wren, Wilson. i. p. 139. pl. 8. fig. 6. *T. Europæus*, Bonap. Synops. p. 93. No. 148. Nutt. Man. Orn. i. p. 427.)

Compared with the European Wren, the general color of the present species is more rufous beneath, the black and white spots extend farther towards the breast. In the European bird, the whole of the neck, breast, and anterior part of the body, are greyish brown, and spotless. The tips of both series of wing coverts in the present are marked with a white dot, internally bordered by black: in the foreign species the dots on the greater wing coverts are scarcely seen. The bill in the present is shorter and less curved, the feet larger, but the tarsi nearly equal; the hind toe much stronger. Wings two tenths of an inch longer than in *T. Europæus.*

The Winter Wren is found on the northern shores of Lake Huron, and supposed by Dr. Richardson to breed in the mountainous district between that lake and Hudson's Bay, but is not known in the fur-countries.

MARSH WREN. *(Troglodites palustris.)*

Was observed by Mr. Drummond on the eastern declivity of the Rocky Mountains in the 55th parallel.

RUBY-CROWNED WREN.

(*Regulus calendulus*, Bonap. Nutt. Man. Orn. i. p. 415.)

This beautiful and minute bird, was observed breeding on the dreary and wintry coast of Labrador by Mr. Audubon, inhabiting a country where the snow still remained on north exposures nearly throughout the month of July; yet, in this secluded and cheerless desert, the warmly clad Ruby-Crown was tuneful and content. Its song resembled that of the Canary, but, as might be supposed from the diminutive size of the minstrel, was more feeble and plaintive.

This and the other species of REGULUS were *not observed* by any of the Arctic Expeditions in the fur countries they traversed. At least they are wholly silent on the subject.

NORTHERN HUMMING BIRD.

(*Trochilus colubris*, LINN. RICH. and SWAINS. North. Zool. ii. p. 323.)

THIS most diminutive but swift messenger of summer, almost defying the obstruction of space, from its mild resorts within the tropics, following as it were the path of the sun, it extends its transient northern range even into the desert fur-countries, and following the great valley of the Mississippi, after entering the boundaries of the Union, it is seen to range with undiminished ardor to the 57th parallel, and perhaps even farther towards the Arctic Zone. It frequents the warm plains of the Saskatchewan, and Mr. Drummond, one of the most enterprising of naturalists, found its diminutive nest near the sources of Elk River in the distant interior.

The Humming-Bird, is deservedly the wonder of all nations, savage, as well as civilized. The Mexicans and other nations of America, considering it as an emanation from their deity, called it the Sun-beam, and also the Regenerated, as they believed it to die or remain dormant in the rainy season or winter, and became reanimated with the return of the flowers on which it fed.

NOOTKA HUMMING-BIRD.

(*Trochilus rufus*, GMEL. Syst. i. p. 497. *T.* (SELASPHORUS) *rufus*, SWAINS. North. Zool. ii. p. 324. *T. collaris*, LATH. Ind. Orn. i. p. 318. Ruff-necked Humming-Bird. LATH. Syn. ii. p. 785. pl. 35.

General Hist. iv. p. 350. Penn. Arct. Zool. ii. p. 177. *Le Sasin*, Vieill. Ois. dor. pl. 61. and 62. Humming-Bird, Cook's Third Voyage, ii. p. 297.)

Sp. Charact. — Cinnamon-rufous; tail cuneate, the lateral feathers of the throat elongated. — *Male*, with a metalloidal crimson and cupreous throat. The *female* golden-green, with the throat destitute of the glowing spot.

The discovery of this splendid species, in the cold and dreary regions of Nootka Sound, is due to the celebrated navigator Captain Cook. Its range is even more extensive on the western, and through the central parts of America, than the common species. Kotzebue found it in summer on the Pacific coast, as high as the 61st parallel of northern latitude, and Mr. Swainson has seen specimens from the table-land of Mexico, near Real del Monte; so that our little western wanderer, no less adventurous than the Ruby-throat, traverses the whole continent, from the equator, probably to the utmost verge of flowering vegetation, on the borders of the Arctic circle.

According to Mr. Swainson, the total length of a specimen in his possession is 2 inches 10 lines; the wing 1 inch 7 lines; tail from the vent 1 inch; the bill above 7 lines and one fifth, measured from the rictus 8 inches 2 fifths. The general tint of the upper plumage, rufous or cinnamon. The crown and wing-coverts only, have, however a strong coppery-greenish gloss. The quills, and middle of the tail feathers with their tips, pale dusky brown, slightly glossed with violet. The chin and throat covered with scale-like feathers, of a metallic fire-like color glossed with red; the tints vary with the direction of the light, and in all are exquisitely splendid. The middle of the breast and vent nearly pure white; the sides and under tail covers the same color with the back. Legs and feet dark brown. — The *female* chiefly differs in being golden-green, where the male is cinnamon; and the throat is merely spotted with the glowing ruby color of the male. Is not this supposed female a young male? as in the common Ruby-Throat, the female has no particle of metallic splendor on the throat, but in the young males spots of this kind appear on the throat in the latest moult.

Bill very straight, and gibbous both above and beneath towards the tip. Primaries narrow and pointed, the 1st shorter than the 2d. The tail more cuneated than rounded, the two middle pairs of feathers being longest, all are narrowed and obtusely pointed, the two outer pairs particularly narrow. The feathers on the sides of the throat are gradually elongated as they recede from the ears, and appear capable of being raised into two tufts.

AMERICAN, OR BARN SWALLOW.

(*Hirundo americana*, WILSON.)

IN the fur-countries, where the habitations of men are few and remote, the Swallow inhabits caves, particularly in the limestone rocks; and it also frequents the out-houses at the trading posts. When Fort Franklin was erected, on the shores of Great Bear Lake, in the autumn of 1825, Dr. Richardson says, they found many of its nests in the ruins of a house that had been abandoned for more than 10 years. At Fort Chepewyan, lat. 57°, the Barn Swallows, have regularly about the 15th of May, for a number of years, taken possession of their nests, within an out-house, and numbers of them were observed in the same month at Fort Good Hope (in lat. 67½°) the most northerly post in America. This species does not appear to agree with the *H. rufa*, of Vieillot, either in its markings or the economy of its nest. The Cayenne bird builds a nest of a foot and a half in length, without mud, and with an opening near the bottom.

CLIFF SWALLOW.

(*Hirundo lunifrons*, SAY. and RICH. and SWAINS. North. Zool. ii. p. 331.)

THIS species, in 1820, the same year in which it was discovered by Mr. Say, who accompanied Major Long, was

seen in great numbers by Sir John Franklin's party, on the banks of Point Lake, in lat. 65° where its earliest arrival noted was the 12th of June. Its clustered nests are of frequent occurrence on the faces of the rocky cliffs of the Barren Grounds, and they are not uncommon throughout the whole course of the Slave and Mackenzie Rivers. On the 25th of June, 1825, they made their first appearance at Fort Chepewyan, and built their nests under the eaves of the dwelling-house, six feet above a balcony that extended the whole length of the building, and was a frequented promenade. They had consequently to graze the heads of the passengers on entering their nests, and were moreover exposed to the curiosity and depredations of the children, to whom they were novelties; yet they preferred the dwelling-house to the more lofty eaves of the store-houses, and in the following season returned with augmented numbers to the same spot. At Fort Chepewyan the young came abroad on the 14th of July, and at the end of the month the whole took their departure. Under the eaves of a house, the nests instead of being clustered and provided with long necks, are placed in a single line, and adapted to their situation, the tubular entrance is either entirely wanting or reduced to a mere ledge. The eggs are 4, oblong, and white with dusky spots. The note is a gentle twittering like that of the Martin of Europe, whose mode of building it also nearly adopts.

PURPLE MARTIN. (*Hirundo purpurea*, Linn.)

This species, which Mr. Swainson observed round Pernambuco, $8\frac{1}{2}$ degrees south of the line, makes its first appearance at Great Bear Lake on the 17th of May, at which time the snow still partially covers the ground, and the rivers and lakes are fast bound with ice. In the middle of August it retires with its young from the fur-countries.

NIGHT-HAWK, or PISK.

(*Caprimulgus virginianus*, Bonap. Synops. No. 69. Rich. and Swains. North. Zool. ii. p. 337.)

This well known bird ranges in summer throughout the fur-countries, and to the remotest Arctic islands. It makes its first appearance at Great Bear Lake about the last day of May.

BELTED KINGFISHER. (*Alcedo alcyon*, Linn.)

This species, the only one in North America, frequents all the large rivers of the fur-countries up to the 67th degree of latitude, but is more common in the interior than near the sea-coast. About the middle of May, when the rivers in the 54th parallel break up, it appears on the banks of the Saskatchewan, and by the middle of June it has penetrated to its utmost northern limits. It departs southward in September, and is also resident in the Southern States and in the West Indies.

DUSKY GROUSE.

(*Tetrao obscurus*, Say. Rich. and Swains. North. Zool. ii. p. 344. pl. 59. and 60. [male and female]. Nutt. Man. Orn. i. p. 666.)

This species inhabits the Rocky Mountains from latitude 40° to 64°, and perhaps to a greater extent. According to Mr. Drummond, in the mornings during pairing time, the usual station of the male is on some rocky eminence or large stone, where he sits swelling out the sides of his neck, spreading his tail, and repeating the cry of "*coombe, coombe,*" in a soft, hollow tone. The males, in the breeding season are so pugnacious and fearless, that a man may take

one of them up in his hand before it will quit its antagonist. Its food consists of various berries, and its flesh is very palatable.

The male is about 2 feet long; the tail 8 inches. Above blackish-brown; the wings paler. Top of the head glossed with hair-brown. The back of the neck very minutely undulated with lead-grey. The scapulars, tertiaries, and many of the wing-coverts tipped with grey, and together with the rump, finely undulated with yellowish-brown. Secondaries edged round the tips with grey, and mottled on the edges with greyish-brown. Tail deep black. — Sides of the head and front of the neck black, passing to blackish-grey and dark lead-color on the breast and middle of the belly. Lores, cheeks, chin, and upper part of the throat, barred with white. Vent brownish-white. Shortest under tail-coverts white, intermediate ones barred with black and white, the longest black tipped with white. Flanks blackish-brown, finely waved with yellowish-brown, striped on the shafts and edged on the tips with white. Axillary feathers, and most of the inner wing-coverts white. On the sides of the neck next the shoulders, the base of the plumage is white; at this part the plumage parts, and admits of the naked skin being puffed out at will. Bill, toes and nails blackish-brown. Naked comb over the eye orange-yellow. There is no crest; and the 4th quill is the longest. Tail long and square, the feathers truncated at the ends. Tarsus completely feathered. The toes pectinated.

ROCK GROUSE.

(*Tetrao rupestris*, Lath. Ind. ii. p. 640. sp. 11. *T.* (Lagopus) *rupestris*, Rich. and Swains. North. Zool. ii. p. 354. pl. 64. [female]. *Lagopus rupestris*, Leach, Gen. Zool. ii. p. 290. Rock Grouse, Penn. Arct. Zool. ii. p. 312. No. 184. Lath. Synops. Suppl. p. 217.)

Sp. Charact. — Bill rather narrow and compressed throughout; nails white; tail of 16 feathers. — *Summer plumage*, above and below barred with dusky and brownish-yellow, below lighter; wings above and below nearly all white. A black eye stripe in the *male*, and with the middle of the belly, white.

This species is nearly allied to the Common Ptarmigan *(T. lagopus)*, but it is smaller, has more of the brownish-yellow in its summer dress, broader bars of black, and none of the cinereous tint which prevails in the livery of the Ptarmigan. In winter they are only distinguishable by the size. This species is, according to Hutchins, numerous at the two extremities of Hudson's Bay, but does not appear at the middle settlements (York and Severn factories), except in very severe seasons, when the Willow Grouse are scarce. They abound in Melville Island in the dreary latitude of 74° and 75°, in the short summers of that frigid and cheerless region. It is also found on Melville Peninsula and the Barren Grounds, and indeed seldom proceeds farther south in winter than the 63d parallel in the interior, but descends along the coasts of Hudson's Bay, to latitude 58°, and in severe seasons still farther to the south. It is also met with in the range of the Rocky Mountains as far to the south as the latitude of 55°. It also exists in Greenland, Norway, and Sweden, where it is known by the name of *sno rissa*. In its manner and mode of living it resembles the Willow Grouse, but does not retire so far into the woody country in winter. It frequents the open woods on the borders of lakes at the same season, particularly in the 65th parallel, though the bulk of the species remain on the skirts of the Barren Grounds. It hatches in June. The egg is of a pale reddish-brown, irregularly blotched and spotted with darker brown.

Length 14 inches; the tail 4 inches; the bill above 7 lines; the tarsus 1 inch 4½ lines. — In *winter*, snow-white. The shafts of 6 greater quills and 14 tail feathers black; the latter narrowly tipped with white. Bill black. Nails whitish, dark at the base. The *male* has a black eye stripe from the nostrils to the hind head. Tail of 16 feathers, 14 black ones and 2 white incumbent ones. — *Summer plumage* of a *female*. The head, neck, back, scapulars, tertiaries, part of the intermediate coverts, and the under plumage, barred with

blackish-brown and brownish-yellow, the dark color predominating above, and the yellow beneath. Most of the dorsal plumage bordered on the tips, with brownish-white. The remainder of the wing above, its whole surface beneath, and the axillaries, white. Quill-shafts slightly tinged with brown. Vent yellowish-brown. Tail of 14 black feathers, with white tips, and 2 central incumbent ones, which with the adjoining coverts, are barred like the back. In the *male* the middle of the belly is white. The *bill* narrower at the base and more compressed throughout than that of the Willow Grouse, also longer and narrower than that of *Tetrao lagopus*. 3d and 4th quill longest.

WHITE-TAILED GROUSE.

(*Tetrao* (Lagopus) *leucurus*, Swains. and Richards. North. Zool. ii. p. 356.)

Sp. Charact. — In *winter* entirely white. In *summer* colored; tail and vent white.

This species, with the habits of the Ptarmigan, inhabits the snowy peaks near the mouth of the Columbia river, as well as the lofty ridges of the Rocky Mountains. Its summer dress is intermediate between that of *T. lagopus* and *T. rupestris*, but it differs from both, in its smaller size, and in the tail which remains white at all seasons of the year. The black eye stripe, appears also to be wanting in both sexes.

Length 1 foot; tail 4 inches; the wing 6 inches 9 lines; the bill from above, ½ an inch; the tarsus 1 inch 4 lines. In *winter* snow white to the base of the plumage; quill shafts also white. Bill bluish or greyish-black. Nails dark horn-color. The bill less compressed than that of *T. rupestris*. Wings proportionally longer; scarcely an inch shorter than the tail; 3d and 4th quills longest. Tail of 16 feathers; the middle pair incumbent.

In a *summer* specimen, the head and neck are shortly barred with blackish-brown and pale wood-brown or brownish-white; the front

of the neck paler. Tail-coverts, scapulars, tertiaries, and the posterior lesser coverts, blackish-brown, cut about half way to the shafts by rather coarse ochraceous bars, intermixed with nearly an equal number of pure ochraceous feathers thickly waved with fine black lines. The breast, belly, and flanks are mostly pale ochre, broadly blotched and barred with blackish-brown, intermixed on the belly with some white feathers, and on the breast with a few of the finely undulated ones. The vent, legs, tail, outer border of the wing, primaries, secondaries, and greater coverts, white. The toes partially naked and not pectinated, the nails short. In other specimens the dorsal plumage, particularly on the head and neck, is nearly as grey as in *T. lagopus*.

COCK OF THE PLAINS.

(*Tetrao* (Centrocercus) *urophasianus*, Swainson, North. Zool. ii. p. 358. pl. 58. Nutt. Man. Orn. i. p. 665.)

The flight of this large bird is slow, unsteady, and attended with a whirring sound, the wings being kept in a hurried motion, as in most other Grouse. It also runs much on the ground in the manner of the Turkey, and is not very partial to taking wing.* Their starting cry, like that of the common Pheasant, is a sort of *'kuk, 'kuk, 'kuk*. They begin to pair in March and April; and at this time repair to eminences on the banks of streams where they are seen assembled about sun-rise. The male lowers his wings, and produces a humming sound as he trails his outspread pinions on the ground; the tail, at the same time, is spread out like a fan, and the bare space on the breast is also accompanied by a large inflation. He then struts proudly in the presence of his intended mate, uttering a confused and disagreeable *'hurr-hurr-r-r-r-hoo'* ending in a deep and hollow tone, like

* This remark I owe to my friend Mr. N. J. Wyeth who has visited the remote countries inhabited by this game.

the sound produced by blowing into a cane. They nest on the ground under the shelter of low bushes, or near streams among the wild Canary Grass of this region. The nest is made of dry grass and slender twigs. The eggs, from 13 to 17, about the size of those of the domestic fowl, are of a wood-brown color, with irregular chocolate blotches at the thick end. The period of incubation extends from 21 to 22 days; and as in other birds of this active tribe, the young run about and quit the nest in a few hours after being hatched. In summer and autumn, these large Grouse are seen only in small numbers, pairs or families, but in winter and spring, partially migratory, they are then seen in flocks of several hundreds, roaming about in quest of food. They are plentiful throughout the barren and arid plains of the Columbia, as well as in the interior of North California, but are no where seen to the east of the Rocky Mountains.

Length of the *male* about 25 inches; the bill above, 1 inch 7 lines. In this sex the general color of the upper plumage is light hair-brown, mottled and variegated with dark umber-brown and yellowish-white. Each feather of the back has 3 equidistant bands of yellowish-white; between these bars one of which is terminal, the hair-brown ground is marked with small, irregular zig-zags of light hair-brown; these colors cross the shaft; but on the wing-coverts and scapulars the shafts are all marked by a narrow, conspicuous line of yellowish-white. About 8 bands of this color on the tail, of different degrees of intensity, with intermediate irregular zig-zag lines of the same. The quills pale and almost unspotted.— Beneath white, and unspotted on the breast and upper part of the body; but dark umber approaching to black on the lower half of the body and part of the flanks; the latter towards the vent are marked as the upper plumage. Under tail-coverts black, broadly tipped with white. Throat and region of the head varied with blackish on a white ground. The shafts of all the feathers on the breast are black, rigid, and look like hairs. Bill and toes blackish. Wings, in proportion to the size of the bird, very short; the lesser quills each ending in a small point. Tail rather

long and considerably rounded, the feathers lanceolate, and gradually attenuated to a fine point of a dusky color.

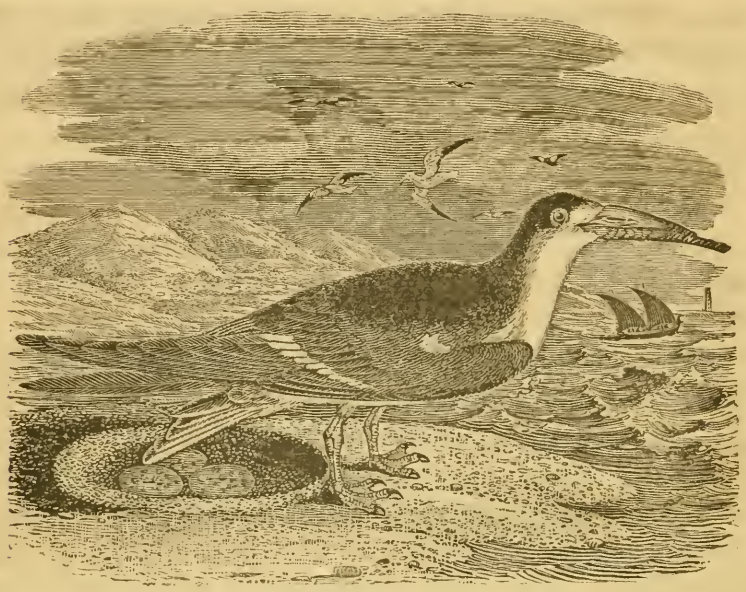
In the *female*, the upper plumage generally as well as the front of the neck, and sides of the breast, is dark umber, or blackish-brown and yellowish-white, irregularly barred and mottled in nearly equal quantities; but the dark color forming larger blotches towards the base, and the lighter one bars on the tips and stripes on the shafts. Fore part of the belly white, barred with black; hinder parts black.

SHARP-TAILED GROUSE.

(*Tetrao* (Centrocercus) *phasianellus*, Swains. North. Zool. ii. p. 361. Penn. Arct. Zool. ii. No. 181. Nutt. Man. Orn. i. p. 669.)

The northern limit of the range of this species, according to Richardson, is Great Slave Lake, in 61°; and its most southern recorded station is in 41°, on the Missouri. It abounds on the outskirts of the Saskatchewan plains, and is found throughout the woody districts of the fur-countries, in open glades and thickets on the borders of lakes, particularly in the partially cleared tracts contiguous to the trading posts. In winter, like the Pinnated Grouse, it perches generally on trees, but in summer it is much on the ground; and is at all times associated in coveys of 10 to 16 individuals. Early in spring, a family of these birds selects a level spot, whereon they meet every morning, and run round in a circle of 15 or 20 feet diameter, on which the grass becomes worn quite bare. On approaching this ring, the birds squat close to the ground, but in a short time stretch out their necks to survey the intruder, and if not scared by any nearer advance, they soon resume their circular course, some running to the right, and others to the left, thus meeting and crossing each other. These "Partridge-dances" last for a month or more, until concluded by the

more serious employ of incubation. In imitation of this curious amusement of the Sharp-Tailed Grouse, the Indians of the upper Missouri, have what they also call a Partridge-Dance, in which the old men chiefly join.



BLACK SKIMMER.

(*Rhynchops nigra*, Linn. Syst. i. p. 228. 1. *Le Bec-en-ciseaux*, Briss. Orn. vi. p. 223. 1. pl. 21. fig. 2. Buff. Pl. Enlum. 357. *Avis novaculæ facie*, the Sea Crow, Raii, Synops. p. 194. 5. pl. 1. fig. 5. Petiv. Gazo. t. 76. fig. 2. [the bill]. Edwards, pl. 281. [do.] See p 264. of the present volume.)

This singular bird, inhabits the warmer and milder parts of the United States from the coasts of New Jersey to Florida, it is also found in Guiana, Cayenne, and Surinam. The East India species is probably distinct. The *R. fulva* of Guiana, described by Linnæus, differs from the present in having those parts fulvous which in this are black; their general appearance and habits are however the same.

WHITE-TAILED SNIPE.

(*Scolopax leucurus*, Swains. North. Zool. ii. p. 501. Appendix.)

Sp. Charact. — Tail of 16 feathers: the 3 lateral ones pure white, with 2 to 3 basal black bands on the outer webs: the belly transversely banded.

A single specimen of this bird in fine and perfect plumage, exists in the British Museum, from Hudson's Bay.

Length 10½ inches; the tail 2 inches 2 lines; the wing 5 inches 4 lines; the bill above, 2 inches 5 lines; the tarsus nearly the same length. The plumage the same with *S. Drummondii* and *S. Wilsonii*, except that the belly is barred with blackish-grey, with 2 or 3 bars on each feather. The 3 or 4 outer pairs of tail feathers white, with one or two irregular blackish bars near the bases of the outer webs: the 3 central pairs black, with a broad ferruginous bar near the end, separated from the narrow white tip by a black line. Bill and legs brownish. Tail considerably rounded; the 3 outer pairs of feathers diminishing successively in breadth, but not much; the outer ones having about three-fourths of the breadth of the middle ones.

Subgenus. — Glottis. (Genus of, *Nilsson.*)

With the bill thick and strong; the mandibles a little recurved, straight and almost equal at the point: the middle and outer toe united by a short membrane.

The food of these birds consists principally of fry and small bivalve shell-fish. They chiefly dwell on the borders of rivers and fresh-water lakes.

GREENSHANK.

(*Totanus glottis*, Bechstein. Temm. Man. d'Orn. ii. p. 659. *T. fistulans*, Bechst. Naturg. Deut. iv. p. 241. No. 8. and *T. griseus*, Ibid. No. 5. [the young of the year]. also *La Barge Grise*, Briss. Ois. v. p. 267. pl. 13. fig. 1. and Greenshank, Penn. Brit. Zool. p. 121. t. C. 1.)

Sp. Charact. — Bill stout, much compressed at its base, and higher than it is wide; under wing-coverts banded; the feet greenish.

This species inhabits the north of both continents, but is much more rare in America than Europe. It is abundant in Russia, Siberia and Sweden, and as a bird of passage in spring and autumn is seen in Britain, France and Holland. It has also been brought from Bengal in India, and stragglers have been taken, according to Pennant, in the vicinity of New York. Mr. Audubon likewise met with it at the Tortugas, near to the extremity of East Florida, and Latham received it from Jamaica. It is probably more abundant on the western side of America.

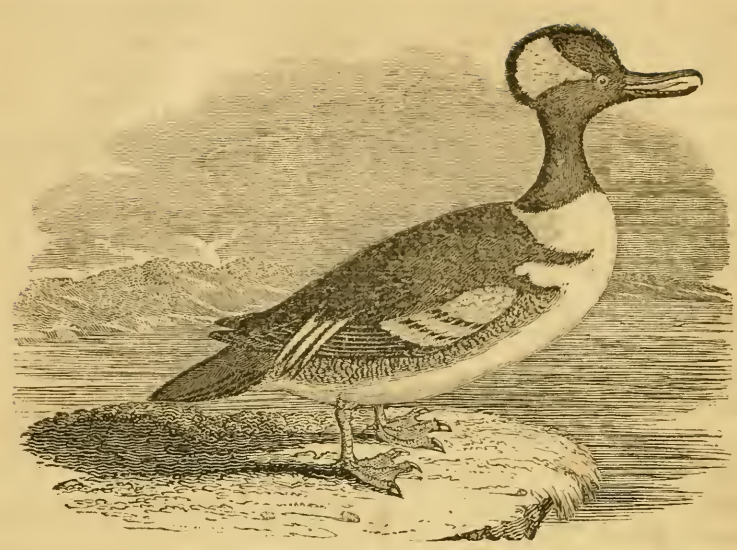
The Greenshank most commonly frequents the gravelly borders of rivers and marshes, and but rarely visits the sea-coast except at the period of migration. Some are even supposed to pass the summer in England in the fens; the egg of which is said to resemble that of the Lapwing, but is rather less, being of an olive-brown, covered all over with small dusky spots. The greater part of the species retire however to the north to breed. Their food consists of fry, small fish, and shelly mollusca.

The length of this species is about 14 inches. Bill about 2½ inches long, dusky. Irids hazel. — In the *winter plumage* of *both sexes*, the space between the upper mandible and the eye, throat, middle of the breast, belly, all the other lower parts and the middle of the back, pure white. Head, cheeks, sides and fore part of the neck, and also the sides of the breast streaked longitudinally with ashy-brown and

white. Feathers of the upper part of the back, scapulars, and wing-coverts blackish-brown, each surrounded by a wide yellowish-white border; on the longer scapulars there are some small dark brown bands. Tail white, the central feathers banded with brown; the 2 lateral feathers striped longitudinally. Tips of the quills whitish. Under wing-coverts banded with brown. Bill ashy-brown. Feet yellowish-green.

The *young of the year* scarcely differ from the old after their first moult. The feet are then cinereous.

Summer plumage, with the head and nape longitudinally banded with black and white. Orbits white. The face, throat, fore part of the neck, breast, upper part of the belly and flanks, white, scattered over with oval spots which are very numerous about the middle of summer; the rest of the lower parts are pure white, except the lower wing-coverts, which have some black along the shafts of the feathers. The upper part of the back and scapulars deep black, bordered on the feathers of the back with white, and upon the scapulars with 3 or 4 spots of rufous-white, disposed on the borders of the barbs. Shoulder of the wing black. The greater wing-coverts and contiguous large feathers are of a rufous-ash, with some black along the shafts; on the borders of these long feathers there are some small interrupted black marks; the coverts are also bordered with a white edging, which is succeeded by another of brown. The 2 middle tail feathers are ash, transversely banded with zig-zags of brown.



HOODED MERGANSER.

(*Mergus cucullatus*, Linn. Syst. Lath. Wilson. viii. p. 79. pl. 69 fig. 1.)

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